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DEPARTMENT OF STATE

INDUSTRY ADVISORY PANEL MEETING

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U.S. DEPARTMENT OF STATE

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P R O C E E D I N G S

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GEN. WILLIAMS: Good morning. We are going to officially open. It is 9:30 right on the button and we're going to attempt to get started on time. We are missing a couple of members but I'm sure they are on their way and they will come in very quietly and find their seat, and we will continue.

First of all, I want to first initially thank the panel for your continued diligence in coming back and being with us to explore any number of matters that might be on our minds. I say this repeatedly; I know you are doing this because you love your country, as most of us do.

And this is not for any other reason other than

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that, because you are given a meal and then I send you home. And I'm not sure whether you even have taxi fare but I send you out. So that's always good to get started.

We are always delighted to have visitors who come in and observe the process. This is always important. This is the way government should be. It should be transparent and open and any of those who would like to witness and hear about another element of government, I personally think it is good.

The Secretary has -- Secretary Powell has spoken often on the Hill about the utility of this panel and he knows, obviously, every time we meet. I mentioned this morning in our senior meeting that we were having our second meeting this year and, of course, he wished us well as he always does.

So with that what I would like to do at this moment, before we have some administrative announcements by Gina, who is always in contact with each of you and has done all of the arrangements for this program and for this session, and she will have some administrative

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comments, I do want to recognize one person who kind of sits very quietly, a little bit obscure, but performs a very significant role for our panel, and that is Deborah Turner.

She is sitting back in the corner, very busy, but she produces very, very accurate recordings of these sessions. And I do want to recognize her for her work. And she can't remove her apparatus at this point to even smile. So that's important.

We will start on this side with John and we'll just go around and have our visitors introduce themselves. We would like to know who you are and who you are representing. John?

MR. BRUMMET: John Brummet, General Accounting Office.

MS. RYEN: Nanette Ryen, the General Accounting Office

MS. LUNDBERG: Jessica Lundberg, General Accounting Office.

MR. SIMON: Michael Simon, also with the GAO.

MR. MINER: Bill Miner with OBO.

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MR. MILES: Paul Miles, Morrison International Construction.

MR. WRIGHT: Kenny Wright, Wright's Engineering.

MR. ESSERTIER: John Essertier, DBI Architects.

MR. GAGEN: Bob Gagen, Kellogg Brown & Root.

MR. OKA: Naoto Oka, The World Bank.

MR. THOMAS: Jeff Thomas, Acquisitions.

MR. MOUNT: Gay Mount, OBO.

MR. WILSON: I'm Dan Wilson with the American Institute of Architects.

MR. WOOLFREY: Stu Woolfrey with Warner Construction Consultants.

MS. BENEDETTI: Tina Benedetti with Settles Associates.

MR STABLES: Gordon Stables with Ingersoll Rand Company.

MS. BARNES: Good morning. Shakia Barnes, Department of State, Office of Inspector General.

MS. PARKER: Meghan Parker, also with the Department.

MS. ALVAREZ: Luisa Alvarez with the

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Department's Office OF Legal Advisor.

MR. FLOYD: Chuck Floyd. I changed jobs. Now, I'm with Congressional Business Affairs for Gen. Williams.

MS. PINZINO: Gina Pinzino, Special Assistant for Gen. Williams.

MR. SILVER: Ezel Silver, OBO

MR. SPRAGUE: Michael Sprague, Management Support Division of OBO.

MR. URMAN: Steve Urman, OBO.

MS. HAYES-BYRD: Jackie Hayes-Byrd, OBO.

MS. HUTCHINSON: Vickie Hutchinson, OBO.

MS. WOOFER: Vivian Woofert, OBO.

MS. GLASS: Deborah Glass, OBO.

MS. PATTEN: Phyllis Patten, Personal Assistant to the Director.

MR. KRISANDA: I'm Greg Krisanda, Facility Management Division, OBO.

DR. WRIGHT: Dr. Lynn Wright, OBO.

GEN. WILLIAMS: If you feel like you're outnumbered, you are. That is a good way to get started.

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Well, we'd like to extend, once again, our welcome to all of those who are here with us in a repeated role and those who are here for the first time. Gina, do you have some admin comments?

MS. PINZINO: I do. Thank you, General. I just wanted to welcome everyone once again and take this opportunity to advertize our Industry Day on June 5th. The details of that event are in your booklet. And I'm going to turn it over to Jesse Montoya from our security office to give you some details on security issues.

MR. MONTOYA: Good morning, General, panel members and guests. I just want to announce that, first and foremost, the restrooms that we are accustomed to going to are closed so we'll be doing a detour today.

So if you need to do that, particularly our guests with the visitor passes, please be sure that you have an escort with you. We will take you to the door and then bring you back. So we'll be doing a detour in that respect.

In the event of an emergency where we have to

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evacuate the building I just want you to know that the exits are marked in green. Green arrows. We as a group will exit as a group and we'll meet together as a group in front of the building for accountability purposes.

So if something comes up and we have to make that move, escorts will be posted outside and we will all do it in an orderly fashion. Are there any questions for me? Okay. Thank you for your time and enjoy your meeting. Thank you, General.

GEN. WILLIAMS: At this time what we would like to do is I'll give you just a little quick update on a little bit of the comings and goings and then we'll move into our discussion for today.

When we briefed last time you had the opportunity to witness our presentation to our new ambassadors. I was very pleased to hear your feedback and, of course, the ambassadors, to the person, were very pleased that you had an opportunity to observe that presentation.

We wanted to do this for several reasons, so that you would see how tightly we are trying to

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communicate here. We try to say the same thing before this body that we say before the people who we are serving so that we are all on the same page. And I think you were able to witness that.

Also, in the way of some news since we last left, we are going to be opening two additional new embassy compounds starting next month, on the 10th and 11th of June, with the opening of new complexes in Istanbul, Turkey. It will probably be the most advanced consular general building in our system once it is open.

And then, of course, we'll be opening a new embassy compound in Croatia, in Zagreb, very modern structure as well, on a ten-acre site. That would put us at number six for openings this year. And I would like to make the comparison that that compares to the one that I often make reference to. So we're moving right along.

I will be going into rather extensive travel, to Europe in particular, in the next couple of months. I'll be making two trips there, about ten days each. We will be opening - I'm sorry, groundbreakings in Tashkent

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- it's in Uzbekistan - and Dushanbe which is just a little bit south of there.

And later on in July we'll be breaking ground in Tbilisi, Georgia, so as we are cutting ribbons we'll be breaking ground as well and keeping things moving right along.

Also, in the way of an update since we last were together we have had this panel, together with the 470 other governmental sponsored panels, advisory panels, rated. The Gallup organization did their polling and reading of the effectiveness of these panels. And our Industry Advisory Panel, of which you are a member and those of you who are observing, rates number two in that rating.

We are very pleased about this, considering the fact that we are a year and a half old, and to be able to attain that status among that number. Obviously, as someone pointed out this morning, I won't be happy until I'm number one, and that's probably right. So we will keep striving to get there. Okay. That's it as far as the updates.

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We are going to launch right into our work for today and ask that you do as you normally do and that is try to dive in whenever you think it's appropriate. And as you know, we don't have any real hard strictures about the protocol about that. So we just want everybody to dive in.

As we look at the topics for discussion this has been an area that has been of some concern for a number of years. Obviously, with my background, I have had to deal with this in any number of ways, and it's the whole issue of value engineering and the utility of value engineering in a project life cycle.

And our concern, and I will lift it and then have that member of our team that has some more detail talk about the real issue that we're looking at, but to what extent does the private sector utilize value engineering to achieve a life-cycle cost savings?

Now, I know the argument, you know, that value engineering may not necessarily be used all the time for cost savings. But the smart people use it for cost savings. So I would just like to hear your views about

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that and, Bill, did you advance this one?

MR. MINER: Yes, I had something to do with this one.

GEN. WILLIAMS: Okay. Do you want to enlighten the group a little bit as to what you were looking at?

MR. MINER: Just as overview, General, we administer our value engineering program in accordance with OMB Circular 131 as other federal agencies do. And the overarching direction is that all projects of a million dollars or more in value must be subjected to value engineering, an independent value engineering analysis.

Now, under Gen. Williams' guidance we have expanded that to include a planning-phase VE study and a design-phase VE study. We have IDIQ contractors who come in and sometimes from other agencies, the Corps, GSA, who sit as an independent tiger team, who are presented the details of a project and then convene for two or three days brainstorming possible savings, life cycle improvements, both project additions and deletions. Then they come back and brief the technical team on their

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findings and recommendations and then implementation follows thereafter.

The nexus of this question is focused on our new emphasis on design-build and how value engineering can be best utilized on design-build projects and build-to-lease projects where we have a fixed-price contract arrangement.

GEN. WILLIAMS: Okay. That's our issue and we'd just like to sort of garner your ideas about, number one, how you view the whole issue of value engineering and how you like it. We're trying to get traction around this one because you just heard Bill say we have expanded it now to get the full use of it. We even find it in the planning stage. And you know how much emphasis we put on planning. What are your views about that topic? Yes, Derish.

MR. WOLFF: You put a nice twist on it by saying life cycle costing. That's a caution item because my own experience with value engineering is that it tends to focus on first cost more. And the argument we have internally is just that argument, that the defense is

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that if the life cycle - we're taking out the life cycle cost by favoring first-cost. So it is a big jump to get into this whole idea of life cycle costing in value engineering.

The other problem is if you're going into design-build at least you eliminate hopefully - I don't want to speak for Jeff Beard until he arrives - but hopefully you eliminate the constructability issue which we also apply to value engineering. We're always worried about whether the constructability issue leads to a lot of value solutions.

But in design-build hopefully you eliminate the value engineering. But then the problem is you're going to have to have cost sharing if you're doing value engineering on design-build.

And if you get into life cycle, I mean, we have enough trouble internally trying to decide what the life cycle cost is and the benefit. Are you going to pay someone for their or your perception of life cycle cost?

So if someone comes in and bids \$22 million and

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you design, you value engineer, you come up with the fact that it should cost \$24 million because it's going to save you money later on, how are you going to handle the change order?

So that, I think, is the issue. And you're right about adding value engineering, life cycle costing but it really makes the analysis more complex.

GEN. WILLIAMS: Very good. Joel, I think you had --

MR. ZINGESER: Well, I didn't have anything at that point.

MR. WOLFF: You've got to get it down to one simple -

MR. ZINGESER: Yeah, right. The thought that occurred to me is that it's very interesting. Again, I wish Jeff were here at the moment, but one of the key concepts of design-build is the notion of putting a number on the table and then seeing how much bang you can get for your buck.

In other words, rather than saying we have a spec that we need to have met, how much is it going to

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cost, and set the competition in terms of who can give us that for a lower price, rather say, here's how much money we have to spend. How much performance can we get for that dollar?

I mean, if you take that approach and really apply it, especially on a life-cycle basis to the competition, if you will, and always have that goal in front of you, that's really what you're striving for then you don't ever have value engineering because what you have is constant optimization, constant optimization in terms of first-cost, life cycle cost, performance, quality, all of those issues.

And to me, candidly, life cycle - I mean, I said life cycle - on value engineering, you don't ever get value engineering because you're always value engineering. And to me, value engineering is a leftover from the old hard-bid days where, you know, you had it all done and then you said after the fact let's take a look and see what we can do different.

Well, design-build, in particular, is changing that model. So value engineering if you're stuck with it

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as a requirement and how do you apply it, part of the question is is the requirement really correct, if that helps.

GEN. WILLIAMS: That's a very interesting perspective because what you're really raising up, I guess what you're saying is if you get it right in the first place then this kind of dilutes the issue of value engineering to some degree. But let's hear more ideas. Bill, can you speak a little bit to Derish's notion about the idea of sharing cost?

MR. MINER: Well, that's the dilemma. The cost sharing part of it is the difficult part in it. We have always had clauses to encourage contractors to bring forward VE concepts through construction. We very, very seldom get those concepts brought to us.

I think we, perhaps for the reasons you're pointing out, that our builders may not see them getting a share worth them disrupting the normal contract terms and conditions.

And then the issue of long-term savings and what they would be entitled to there is a very difficult

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one, or our ability to even pay them against long-term savings is complicated.

So I think when the VE legislation first went into place it was primarily fashioned on the design-bid-build world. And I've talked to Jeff, and as you know, I've spoken to the DBI membership about this, and I've put that on their plate to maybe take that to their own committee at DBI and help us think through how to better integrate the current VE legislation with the design-build philosophy.

GEN. WILLIAMS: Yes, Tod.

MR. RITTENHOUSE: As was said, and it's very important, that we're constantly value engineering in this design-build process because every time we do a job for someone we say okay, we did that. What can we improve upon that next time, next time?

But one of the dilemmas you're also going to see is time versus cost. And somebody who design-builds, people say they want to go that way, that route, more for the time savings and the contractor's dilemma of I can do it this way which it may cost more but I know I can get

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it done quicker.

I had a couple of instances recently where people said, you know, what do I do, kind of an example here but, you know, a hundred percent, X topic or maybe there's another way to do 80 percent of X but it's going to take longer to get the approval and everybody either in this circle or in the outer ring here hasn't seen that it isn't - it's going to take them time to vet that solution. So the value engineering might take longer and they're on time constraint because that's their incentive versus the cost constraint.

You have to decide what is the overarching reason for going design-build. Is it cost driven or time driven? And if it's time driven I think a lot of the value engineering issues are going to essentially go out the window because, if I'm on a schedule and it's going to take me three weeks longer to vet this and get it placed on a critical path versus it might cost a little more to do it the old-fashioned way. So you've got to decide which is the overarching reason for going the design-build process.

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GEN. WILLIAMS: Well, we have heard a lot of views here. Ida, do you do value engineering at Boeing?

MS. BROOKER: Yes, but traditionally we are still in the design-bid-build scenario which I agree with the other members here saying it is the old way. And it goes along with the design-build where we're really looking to that entity to come forward with those kinds of things without being incentivized.

The criteria that they design to is open enough that when we do have a design-build we expect all value engineering and all those kinds of things be part of the development of that final product. And it's like an ongoing process that we go daily in these kind of ideas on how to save money or time or whatever to get the right product at the end.

But in value engineering I think it is far more appropriate when you have an independent design done and then you bring in a contractor and then you incentivize them to do that.

But the other comments here, it is difficult to prove or to acknowledge the long-term life cycle cost

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savings of something when you come into value engineering and do you pay them. That is a very difficult question.

And also some of the ideas are it must be vetted by the organization that has got the long-term responsibility, because right now I'm going through a scenario where we have got some value engineering being suggested on one of our projects, and there is philosophical argument about it, but right we're trying to figure out how to measure the life cycle cost of the ideas because we believe that suggestions they are making are inferior in the long run.

And some of the problems with the construction industry is that the participants do not have long-term responsibility for the items that they build. And if you are a developer in the industry you develop a project to be sold but if you are a contractor you build a project to be out of it in a year.

So the fact is that a long-term owner/occupant has a different philosophy and approach to some of these projects, and when you start talking about value

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engineering it is the 'now' syndrome. How can I cut costs now. They're the beginning, the up-front costs that they're looking at, not the long-term.

So my answer to value engineering is it depends. It depends on the project. It depends on the contract. It depends on the time constraints. You hate giving that answer but I think it is an answer. But it is not the only answer and it's not always the answer. I think that you have got to have the right situation and the right scenario.

We have several projects today in-house that we are doing that value engineering applies. We have several projects where value engineering doesn't apply. I mean, you just have to know when to apply it and when not to. But it is a smart solution especially if you've got participants who are technologically savvy, that have knowledge of where the technology is driving.

And sometimes that technology is developed in the midst of the project where you can apply it and it will, in the long-term, eliminate installation of a lot of infrastructure. I mean, just there are so many things

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happening so fast that sometimes those kinds of things come up in the middle of a project, great value engineering.

We don't have to do all this wiring, we don't do all this, we'll just go satellite-driven, and sometimes, though it may cost more today, but in the long run it has some real advantages. So there are opportunities all the way through the project but I don't know that it is a cost answer.

GEN. WILLIAMS: You know, this is very interesting, quite frankly, and extremely helpful to us as we frame and noodle this issue around because in our business, as you probably have seen in the year and a half that you have been working with us, we have gone back and revisited practically everything because it is our effort to try to get it right. And we know that there are no panaceas in this business and this is a very slippery, moving kind of arrangement.

And I think you kind of put your fingers on it, and several touched on it. It kind of depends on what the prevailing condition happens to be. And because of

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having a worldwide type of mission, where we are dealing with so many crosscutting variables and situations, we can't be just locked into one particular type of arrangement.

So we're looking for every conceivable method and means in order to get us there and so that we can land as right as we possibly can. So Bill is right. I've been putting a lot of pressure on the notion of getting everything we can get out of the concept of value engineering. And he has been and his staff have been working very hard at this. And we thought it was useful to kind of hear how the private sector sees this. And we have gotten a smorgasbord which is good because we can learn from that.

Just going back, sweeping it through one more time to see if I can get your views about when you have used it, when you have experienced it, when you have been asked to participate in it, did you find a better means and method and at the same time did you reduce cost? Let's don't speak to the sharing at the moment but I'm trying to see if the concept worked. Yes, Joel.

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Mr. Zingesser. Well, I don't know if this is helpful because it's sort of just putting more emphasis on what I said before and that is value engineering seems to have the biggest bang when it is a traditional design-bid-build environment.

And candidly, the constructor has not been involved in the decision-making up to the point in time where they get the documents, they bid the job. This is what you the owners say you want. This is how much it's going to cost to get what you want. Oh, by the way, did you think about this, that or the other thing? And that is where the value engineering starts to play out and the dollars start to roll in.

Again, that happens almost every time that there is some thing, I don't want to say an oversight, but some alternate way to do something where dollars can be saved, quality can be improved, time can be gained, whatever. And that is the payoff of that but it's because the contractor, the constructor, obviously hasn't been party to the game.

Now, in another scenario where you have a CM

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for services involved, you may get some of that up front because they're thinking of constructability. But even there there is something different when you get the actual contractor involved who's going to do it.

You move forward another step to design-build and again, to be redundant, I think if you, the owner, are not getting that kind of continuum of thinking you're not getting the best out of the team that you have got.

I think, candidly, to me the most interesting thing is in Bill's introduction when he talked about value engineering. I'm not sure if that is exactly what you are doing but what he described as working in the planning and design or predesign phases, or the programming phases, to me in design-build the most critical thing you can do as the owner is be as clear as possible about what it is your criteria are, what it is your needs are.

And that distinguishing of needs from wants and all of that stuff up front to me is where the biggest dollars are saved and whether it is on a life cycle or a first-cost basis because once you get the others involved

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you are now getting what you asked for. You're getting somebody else to take over and you're going to have the ability to say yes or no and observe and make input but your greatest impact is in what you hand them in the way of a program.

GEN. WILLIAMS: Thank you, Joel. That is a very interesting twist on this because this leads right into what we talked about maybe an hour or so last time, on this whole idea of planning.

We, as you know, introduced sort of a new slice of management. I'm sure it's routine in the private sector but in government it had been sort of silent and that is a big P, because if you do not plan and get your requirements right, and this is what you're speaking to, and everybody can lock in and be disciplined around that need and maybe not a want because in the government we can't deal with too many wants. We can do what we need and then we have to stop.

But if you start tinkering with the toy after you get past that you are headed for trouble. And you're right, the value engineering or whatever you call it at

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that point, in my opinion and experience, becomes kind of a very undisciplined process.

But what we're trying to do, and that was the whole notion that I asked Bill to advance, this get it technique into the planning stage while people are sitting around, noodling and thinking about the path forward. And then apply the smartness in terms of approaches and this type thing before the fact.

Because once you, as you said, you are getting into the execution mode, number one there's this time like Tod talked about, and it's other things that makes it a little bit dysfunctional. So, Bill, is that getting there?

MR. MINER: Yes. Very helpful. It reinforces what we're trying to do.

GEN. WILLIAMS: Yes, Robin.

MS. OLSEN: I was just going to say I guess if you set up each set of your criteria and decide what is helping you.

GEN. WILLIAMS: Yes, Tod.

Mr. RITTENHOUSE. One or two last comments. I

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think the problem is that what we call value engineering, maybe we need a different title, because I have seen these go very well. I've seen them go very poorly based on the attitude of both sides, the reviewers and the recipients, the original designers.

And the right attitude really helps because these can be very helpful to validate, maybe it's process validation that you're really working on with the programming, which is very early.

I'm a big advocate of spending more time making those decisions and making them correct once. So many times and I've got it with another government group right now who is rushing to get the first answer in and they'll worry about it later. And they don't realize that the first answer early means revisiting that answer many, many times down the road.

So I like the idea of the planning validation or program validation. It's a different term from value engineering because essentially value engineering is having to do with half a chiller or a third of the thickness of concrete or whatever it is because it's

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cheaper now and then problematic down the road.

But validating the program and fixing it, taking the time, taking the extra day early to fix it, fix it and set it in place will lead to good engineering architecture projects decisions down the road.

And so I always advocate a little more time, spend more time on the concept phase than in the construction document phase. Just push the - get it done so you get it done right the first time with proper thinking, with the proper validation.

GEN. WILLIAMS: That's excellent because this is exactly what the thought was when we got started. I mean we didn't have anything else to hang on but value engineering. But you're right. It's discipline and value and validating the program side. Yes, David.

MR. READY: I think with value engineering I would just throw up a cautionary note that in my experience where there has been a lot of work on the front side to make the decisions as the process that you're trying to follow there then becomes in a traditional bid situation the play and politics of the

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bid by the contractor.

And many of the decisions of the value engineering process would indicate would be justified and perhaps cost-raising in the initial, when you get to the bid situation, and maybe a different set of reviewers come into play or a different set of, in my experience, financial review and return on investment kinds of issues come into play, then all of a sudden all of that thought process starts becoming subject to quick-shot financial analysis kinds of things and saying, well, that's not a necessary issue. We have got to cut that out. We've got to cut that out.

And now you have chaos, because a lot of your design process that ripples from some of those value decisions when you take away that system or those sets of design guidelines that you put into place now you have other problems that you didn't foresee compromises in your process.

And I think you have to be cautious that you're bid politics don't undermine your value engineering and make it clear to the contractors where alternate systems,

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bids, may be interesting and where they should not come into play.

I think educating the contractor as part of the bid process as to why you made certain design decisions can help you because the contractor then becomes part of that thinking process rather than spending a lot of time trying to figure out whether he can propose something that is a little cheaper and therefore slip under the window.

GEN. WILLIAMS: Excellent. Are there others?
Yes, Joel.

MR. ZINGESER: I guess the only comment I would make again is in design-build I think you've got the contractor at the table at the right time. And hopefully if they are doing their jobs then the continuum goes on.

Again, on this idea of program validation I think that is a great term to call it because a good design-build team is going to sit with you and you say, when you say we need a room X by Y to hold so many people because this process is going on somebody ought to raise the question, do you need a room X by Y with so many

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people or could you buy one more computer, or some out-of-the-box thought that helps you think through what you are doing.

And if you're comfortable that, yeah, you need the room X by Y with so many people that's the end of the story but that is real value engineering and program validation. That is the kind of thinking you want to get early in the program.

GEN. WILLIAMS: Yes, Joe.

MR. TOUSSAINT: Hearing this discussion is stimulating my thinking. What we have is we have the standard embassy design, design-build, and we put it out to bid and the low bidder gets it. And after that then we go through the process that Bill was describing. And prior to that we do the planning VE.

But hearing this discussion I'm wondering if you have any experience to have part of the competitive process, say you have six contractors bidding, to have that incorporate in it some VE effort on their part so when they come to you as an owner they come with the optimized price. It may not be the lowest price that

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wins but it may be the price that would show the best value to the government in the long-term.

Whether we would have to pay for that effort or whether it would open - here's a standard design and they would then be coming to us with a way to optimize the constructability, for them to build that, the time in which to build it and so forth.

Do we have any experience, do you have any experience in that sort of a bidding cycle for design-build? So then once we're in design-build the contractor has his firm price, he knows the requirements and he gets on with building the building.

GEN. WILLIAMS: A lot of hands. Go ahead, Ida.

Ms. BROOKER: Well, all I can say is cautionary. When you do that you have got to be very careful because what you're asking for is you're asking for innovative ideas from the people that you're soliciting bids from.

If you happen to use any of those ideas and they are not the low bidder you have got a major problem. And if you're going to say, no, we're not going to use those ideas, forget it, because the people involved in

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those projects cannot resist implementing innovative ideas once they know them.

So if you're going to ask for that kind of a bid you need to pay for the privilege of utilizing any of those ideas. And it is really not an - it's not enthusiastically embraced by the bidding community to put out all their ideas out there in a bid form if they are not going to be the successful bidder. It gets to be very tentative at best.

There are more intriguing things they can do like say we have six value engineering ideas if you choose us as the low bidder. I have seen that kind of dialogue. But for them, to ask them for all those innovative ideas you either have to pay for it or you run into the risk of stealing their ideas and implementing them into your - and that is exactly what it is if you don't pay for those ideas - and it gets to be very messy. And from firsthand experience I can tell you that.

And it's what I call professional, it's a professional ethics issue. And I have an instance where that happened and it just is not the best way of doing

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business. And it is just that you get people on your team that are so excited about a project or an issue within a project that they just can't resist.

And once they have heard a new idea, whether that contractor gets selected or not, they have got to implement it because they want the very best. You can't blame them for their enthusiasm but there is professional ethics that are going to have to be followed, so be very careful.

GEN. WILLIAMS: Tod.

Mr. RITTENHOUSE: I cannot disagree with what was said there but I was actually going to go from the other angle which is yes, it is interesting on some of the projects, that GSA projects, it's best value and what are they getting for it. So there has to be a decision, be able to measure that. What's the reason for going with the standard design is to standardize everything and now --

GEN. WILLIAMS: That's correct.

MR. RITTENHOUSE: The first thing that is going to be nonstandard is perhaps the architectural design.

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That always wants to be changed.

GEN. WILLIAMS: You realize that was just a comment?

Mr. RITTENHOUSE: But if you could find the way to understand the best value and to measure that value that would be great, but I agree that we go in there and I go to the contractor and say we can do this or we can do that. And he says, okay, thank you. Just tell me that and don't you ever open your mouth in a meeting because it is in his pocket to make those decisions not in my pocket.

So we will share them with him but unless there is some incentive to put that on the table, because I've seen that where we have been on one team, we lose a job and our idea gets implemented or something like that. It hurts. But it doesn't hurt me as much as the contractor because he is the higher risk. He's the higher reward person there.

GEN. WILLIAMS: Well, you know, I think you all have spoken to the real issue and that is if you're going to standardize for the purpose of having program

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discipline and all of that then it just has to be that. And then you do whatever you can with this program validation, and I kind of like that term, a la value engineering, within that discipline process. Because part of our reason for looking at this whole standardization is because we were, in fact, all over the map and people could not see us as being - what are you about?

Well, I think what we have tried to do in the last year and a half is to be as convincing as we can starting with our AIA friends and everybody else that we are going to be about standardization. And then help us get as smart as we can about that.

So it would be a diversion if we sort of opened it up to having everybody's idea because no two contractors build alike. And you just don't operate alike, and you have your own approaches and whatever, and you can be very convincing that I have the best method of building a mousetrap and you didn't take it. And I could have gotten the cost down, whatever. But you just can't operate that way because next time around you have to use

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that mousetrap or go to some other and it becomes very convoluted. Yes, Joel.

MR. ZINGESER: I just want to add a thought on that. Given sort of three types of procurement, one is a cost-based, low bid type environment for construction, the other is a pure quality-based selection as we have for the AE community, and then a best value which is a combination of both.

I think in the best value world you have to set the elements that you are going to be looking for price on, you have to set so that you have got apples and apples. But your ultimate decision is where you are on the quality-based side of that equation and you're saying who do we think we can work with and whatever parameters you have for making a final decision and putting the two together.

And then ultimately when you have made the right decision and you have got your team onboard on that best value procurement then you want to explore all of these ifs, ands and buts and other options and so forth.

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And one of the things that I think it's unfortunately really difficult to do today is to do a life-cycle-based procurement, life-cycle cost-based procurement. Yet once you get your team onboard you can start to do life-cycle cost analyses of elements and make decisions.

You may or may not be right but at least you're working towards that decision in a way that is manageable. In a competitive way I think life-cycle cost decision-making is really difficult.

GEN. WILLIAMS: Okay. Yes, David.

MR. READY: Just one quick thought on the procurement options. One thing that you might consider in lieu of opening the Pandora's box of creativity in the bid solicitation area is perhaps a front-end or a post-project, wherever you want to hold it, symposium, free-for-all, contribution, review kind of process where the interested industry participants, suppliers, builders, whatever, as well as general technology people, bringing them together, perhaps even in a paid process and certainly in an open forum process, to solicit ideas

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before you start the next planning process so that some of the innovative things that have come onto the scene can be looked at against your standard model in a noncommitment sort of way by your staff and advisers.

And where a vendor or group of vendors may have solutions that might be attractive to modify your standard model you can look at them with the luxury of time and without commitment to consider what they are saying and then see if you want to pursue it. But it doesn't put you in that obligation and potential legal trap of using a developed idea that has been submitted under a contractual environment.

GEN. WILLIAMS: In other words, what you're saying, David, be up-front and just go out and pay for ideas?

MR. READY: Well, or invite - you now have a standard model.

GEN. WILLIAMS: Right.

MR. READY: So everybody can look at that standard model, and if they think they have something that would make it better, have a process where they can

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come forward in an unsolicited proposal kind of manner and let them lay out what they might think should be the next improvement for you but not in a bid situation, not in a design-build team situation so that you have a different relationship with that idea.

And I think this is just like grant proposals and other things, people are quite capable of putting a synopsis of their ideas together. And if it appears that it is attractive then you can develop a mechanism where you can bring that advice into your planning process.

GEN. WILLIAMS: Excellent. This has been very good. It's one of the sticky issues that we have been tossing around and we just wanted to vet it and get your ideas and we got all the caution flags and everything else here.

But I think through everything that we have said this morning I think upon this topic is that if we are going to make a turn in the road you have really got to know what you're doing. And part of our process to date has been to try to get a very disciplined process so

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that

we would not send false signals to those who have to participate with us.

They know where we're coming from. They know generally the type of product. They know what our basic philosophy is about things, and this works quite well from the standpoint of discipline.

Okay, let's move now to another area. I want to talk a little bit about skill sets and, quite frankly, what are you seeing, what are your ideas about that whole subject? And very specifically, we are looking at when you have gaps in required skills how do you deal with that? When you discover that you just don't have the kind of skill sets that you - it's a person power issue is what I'm dealing with. Workforce mix, et cetera. Yes, Tod.

MR. RITTENHOUSE: We have experimented through the time of whether to simply develop from within or to hire from outside. And historically anybody we brought on through a headhunter has not worked out historically.

GEN. WILLIAMS: I hope there's none in the room.

MR. RITTENHOUSE: But it's something that I keep

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addressing just to see how we can improve our firm by there are certain things that we do very well and we're known for and there are areas that we want to improve upon.

And the best way we have looked is to try and see who out there wants to move over and try to do that or expand. Maybe they're number two in there and they're never to going to see the number one position in their current firm. But I have some levers we can use that you can't use, and that's money.

GEN. WILLIAMS: That's right.

MR. RITTENHOUSE. You know, if can't compensate them or reward them through their services I can always bribe them which is something you don't have the luxury of that.

GEN. WILLIAMS: That's a bad word for me. John Hammond he's taking notes over there.

MR. RITTENHOUSE: We call it incentive, actually. But I mean we do try to sit down and recognize what are the gaps in our staff. And then if we have it across the board our biggest gap through the years was actually from a marketing standpoint. And I'm speaking from a marketing

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standpoint but we had people who do a lot of things and we're known for three or four industries but here we're known for embassy design, but we have a very large bridge division as well.

And our bridge engineers don't realize we do labs. And so what we have found is our biggest gap was, in fact, in the perception, the public relations and the marketing. And so we really went out there to try and find ways to improve upon that.

And I have actually lied because the person we did get through a headhunter was actually very valuable. I think it's the technical people we get through headhunters, who want to stop being a bridge engineer and I want to be a structural engineer. That doesn't work so well.

But going out in the industry and advertising, getting the word out and once we got the word out that we were looking for people in an area they didn't realize that we worked in that really benefitted us in a good way.

So number one still remains to grow in-house. We have found people who have a strong vested interest, have been here for three, five, 20 years, whatever it is, are

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willing to make the shift because it is for the betterment of the company they have given their lives to as opposed to going outside. Outside you're just another company looking to hire services, try it for three years, move along.

And that's what we have found with headhunters where the headhunters are recycling their people or they are trying - say, well, I'll try this for five years. Well, that didn't really work. Now I can go - I got a new job and got more money. I can now go someplace else for a new experience or more money.

So that's the reason we have relied more on

growing our own people rather than poaching,
another bad word, but going outside and
finding them from another firm. GEN.

WILLIAMS: Any other views about that? Yes,
Rodney.

MR. CLARK: I think to sort of tag onto a couple of comments already made a lot of times it is based on what the ultimate objective for a particular project is. Is it a short-term objective in terms of the client that you're trying to satisfy, the project that you're working on?

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And for a lot of people within the architectural profession that is sort of a fundamental question that you ask. And that ultimately ties into where you're going strategically as a firm. Does it make sense economically? Does it make sense in terms of where you're trying to grow your firm and grow your business to bring that, to try to find that expertise, to find that number two, to bring them in house and cultivate that over the long-term.

Or is this more of an aberration? Is this a one-time deal or a two-time deal where it's going to make more economic sense for all parties involved, the client, to really take that expertise off the shelf, utilize it for the project you're working on or series of projects that you're working on and go back to the marketplace when it comes up again.

And when you're looking at that you're looking at it as part of at least a number of our folks look at it as far as what the client need or the project need is but then the other piece that is sort of a natural, almost obvious, piece of it that maybe doesn't even require a comment is what is the direction of the particular firm that you're

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working at in terms of where your strategic direction happens to be?

It doesn't make sense for that group to bring that person in to use that as a foundation. Do they fulfill sort of an asset, an expertise, a knowledge base that you currently don't have that is to be of value over the long-term to the client base that you currently have or the client base that you want to cultivate and develop.

So those are, I think, in some respects almost self-evident but perhaps not, but it looks, it's in many cases a case-by-case situation because does it play into where the client wants to go? Does it play into where the firm wants to go? And on any given project or any really given time of the marketplace the answers to those questions could be totally different.

GEN. WILLIAMS: Yes, David.

MR. READY: I think our experience with various things that we have tried to fill the gap on either teams or on areas of concentration, one of the things that comes up which is not always apparent when you start figuring out who you might want to bring into the firm or how you might

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want to go about solving a particular problem is all of the peripheral costs that go with that skill.

And in many cases with some of the firms I have been with we would have been much better off to not try and create an in-house, permanent capability because of the peripheral cost, whether it be equipment, licensing, the recognition that the key guy that you wanted to bring in for him to be as effective at the kind of cost that you've got to pay for him or her to come in you have got to create a support mechanism around them.

And many times that is not calculated in and all of a sudden you find it would have been much better to create a team relationship with another firm or an individual consultant who already has that mechanism in place and who is perfectly willing to work on a project-to-project basis which may be a very permanent relationship with you. It may be years of project-to-project relationship but they're carrying their overhead, their support mechanism on their side of the pocketbook as opposed to the firm trying to re-create the environment to bring a key person in to be in the middle of it.

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Those costs a lot of times just don't ever show up until it's too late and then you either have got a bad situation of having to let someone migrate out, and that's an expensive transition, and walk away from a market that you've already spent a lot of money trying to get into and now you're just not able to play.

GEN. WILLIAMS: Well, I'm hearing in-house. I'm hearing not so in-house. I'm hearing expense. All of those things are critical to what we have to go out after hard to get skill sets. Yes, Ida.

MS. BROOKER: Well, the first thing is that I agree with David, that you have to look at the long-term need of the organization for that skill. Because of the cost of adding personnel there has to be a driven need for that in-house skill long-term. If there isn't, it is far more appropriate to go outside to bring that skill in for a temporary basis.

And sometimes it's even more effective, cost effective to do that if you don't know whether the long-term skill is going to be required. But before you start going outside you need to establish that long-term

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environment. What we try to do is we try to hire for the constant. We try to fill in outside for the variable.

GEN. WILLIAMS: Peaks and valleys.

MS. BROOKER: Peaks and valleys. And so that is why we have a scenario where we have a lot of on-tap experts in certain areas that we can draw on on a short-term basis for different needs. But the long-term staffing of any organization, right now one of the criteria that the Boeing Company has is every single person must educate themselves in some area every year.

You have to take classes, you have to go further some skill, even if it's - one of my favorites is fly fish tying. What that is it's a plan for your retirement, so go do that. It makes you a better person. It makes you more rounded, but there are other areas. A civil engineer taking electrical engineering classes or anything of these things that make you a better person all the way around. What I'm finding is the engineers take soft skill classes; the people in the soft skills take technical classes, technical versus soft skills.

We have gone through a major reduction in

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headcount over the last two years for obvious reasons. What we have found is we find far more people technically qualified than we do have people who have all the soft skills that we need.

The people that we have kept have both. And the people who are centered on technical skills but they don't have team building, they don't have communication, they can't negotiate well with any situation, they don't get along with their customer base, those kinds of things are where we are finding the weakness in the technical area of our organization.

So that is where we're looking is to further develop those people in those soft skills so that we have a well-rounded base for any situation that might come up. So not so much technically oriented as that well-rounded ability to think on your feet, work with people, come up with solutions on a daily basis. So that tends to be how we fulfill our needs on a constant basis rather than trying to plan for those peaks and valleys.

Mr. RITTENHOUSE: Does Boeing pay for it?

MS. BROOKER: Yes.

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MR. RITTENHOUSE: Is there a limit for - a minimum or limits?

MS. BROOKER: No. I mean, you could go for your MBA program and they will pay for it. That's pretty intensive.

MR. RITTENHOUSE: Can I take it?

MS. BROOKER: Unfortunately no, but they feel that people improving themselves are a whole lot -- there's a whole realm of things that a corporation or company or organization can benefit by their increased interest in life itself, increased interest in what is going on in the world, increase in their own specific job.

And you talked about do we encourage internal growth or do we go outside? There is a great emphasis for internal growth, great emphasis because you have already found someone that works within your organization, understands your philosophy, understands your way of doing business. And if you can utilize that person in an area that interests them then you've now got a win-win.

GEN. WILLIAMS: That's very interesting. I would

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just be curious as to how the parts of industry is looking at this whole issue because Ida raised an important point and that is when you have to shore up in hand or tweak up an individual's skill set should it be done in the lane in which the individual came to the table with, i.e., technical versus nontechnical or should the tweaking or the enhancement or the shoring up be in the more broader area. Or if you are already broad maybe in a technical one.

That's a very interesting dilemma because, you know, the military does it the way you have just talked about. If you are technical initial then you have to broaden for additional training, such as management, the MBA, that route.

If you are broad then you have to at least have something technical in the long run. So I'm just interested in how the rest deal with this. Yes, Joel.

MR. ZINGESER: This is a big subject. I'll really try and be brief. Speaking for my company we have gone through every facet of this issue that you can imagine because over the last five years roughly we have tripled in size. Most of it has been in our core business area. We

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have got a name that generates interest in the marketplace so we have people of quality knocking on our door looking to come in.

So that part of the recruiting for our core business and our core activities has been good in that we have been able to grow incrementally, manage the growth. Although that sounds like a very rapid growth it has been well-managed as people have come on board.

When you talk about gaps though there are two kinds of gaps. One is, I'll give you an example, green building, sustainable design. In the last couple of years anybody who is in this industry is out there looking at U.S. Green Building Council and getting their lead certification and getting a lead registration and professionals registered and so forth.

In our company whenever there is a gap my boss says, Joel, you're our expert. You go figure how to fill the gap. So I am now FAIA. I'm a member of the Associated General Contractors. I am the U.S. - I'm a certified lead professional and so on and so forth. But that's general contractor's mentality. There may be a few others in the

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room who understand that we run a pretty tight ship.

But once it becomes real then we do really put the shoulder to the wheel to move it. And, for example, in that area I took one of our project managers who seemed to have an understanding. He also happened to be the project manager for a big agency renovation project. That agency happened to be the Department of the Interior.

He is now a zealot. I mean, I can't him from making everybody do double-sided copying and you name it. I mean, but he is now our guy. But to be serious there are gaps that you have to fill quickly and figure out some way to get to it and fill it up.

The other thing though in terms of sustainable, if I can use that term, sustainable growth in gap filling is through recruitment of college students through intern programs, bringing in new, young employees.

And then when an issue comes up such as at our last meeting where we talked about interoperability and the issues on the horizon of that one of our young guys who is interested in that subject has now been earmarked to keep his eye on that ball and make sure that as things develop

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and change that we are up-front, we know what is going on.

So it is very multifaceted within our company. Now, speaking for AGC for a moment if I can, I'm not sure I can do this completely, AGC, as an organization, has a real recognition of this need to be broad in terms of training programs and putting forward opportunities for its members to learn and develop and train its people at both the local and national level, as does AIA and any of the other major professional associations.

Those programs are excellent programs that again I've had the good fortune of speaking at AACE and have been a member of AIA and so forth. Those associations really do an excellent job of helping train our people in the various facets of what we need to keep up with.

The bottom line is, obviously, just constantly every day trying to look at what is happening and again not to belabor the point but we do joint ventures, other general contractors do joint ventures. The reasons we do that often is gap filling. We know how to do one thing; they know how to do something else. Bring it together.

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GEN. WILLIAMS: Good. Yes, Derish.

MR. WOLFF: Well, usually I agree with Ida but we do actually the opposite of Boeing. We treat training as a very selfish thing that is done for the company's benefit. The employees are only secondary. So we want to train employees that we want to keep and we want to train them in fields that are important to us.

If we feel that - so for example, we won't let an employee get, we would not fund an MBA program unless we want that employee to move into management. If we don't feel that employee, he or her, doesn't have management potential we're not going to fund an MBA program.

If we see we have a group of employees in a very good field, very attractive employees in a field that's not going to grow, then we want to look at training, at crossover training. But the last thing in the world we want to do is train people in fields that we don't need them for.

If we want an MBA the biggest mistake people make is they will take a very good engineer, a very good scientist, let him go to an MBA program and then the person

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comes back and says I'm an MBA. I want MBA rates. I want to do MBA jobs. We never wanted him to do that.

You can go out to the marketplace if you want a financial person and hire them. So I think that's a big mistake and it should be geared to where the company is going, I think.

And this gets back to three issues, only two that are a problem for you which is grow, buy or contract out. Fortunately or unfortunately you don't have the problem of buying skills. But that is the issue all companies face and here I think Joel is right. Point eight and nine are very similar.

You have to look at what your core practice is. Every enterprise has a core practice of things that are important to that enterprise. And you want to recruit in college for this. You want to mentor people. This is what you do that makes or breaks your organization.

Then on the side you have other activities that may be terminal hiring. And there you typically have, where you're not going to offer a great - people are not going to move up to a managing director level no matter how

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good they are.

You have to be honest with yourself when you have that group of people because they are likely to become dissatisfied in the long run simply because they are not going to have any place - I always think of the meat buyer in a supermarket. He may be buying 30 percent of what the supermarket sells a year but it's very hard for him to get - he has two steps, meat buyer and merchandise man. That's the end.

So you have to be honest about that and then you get into two subcategories of that group, one is if you're in cutting edge, and this is where we get into the most trouble. If it's a cutting-edge field, for example, in the last couple or two years ago, IT.

You really have to think seriously about outsourcing that because you're not going to keep those people happy and you're not going to get the best people because they will join you and then they won't have the career track.

There will be your IT officer and so this is very dangerous when you're not - in a field, one, where you're

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not going to get the best people simply because you're not a leader in it. You're not EDS or someone.

And secondly, in a field where you're hiring terminal people there you have to face all the issues Ida was talking about, about how you're going to reward them, how you're going to stop from just having a lot of people who have no place to go and they're on your payroll and you don't really need them any longer. So those are the two areas that we look at as outsource or, as Joel said, to joint venture.

But I think you have to spend more of your time - any company has to - on eight which is recruiting into your core practice and having new blood go through it. And these are the people you want to train and you want to mentor because they are the heart of what you want to do as a practice.

GEN. WILLIAMS: Very good. Are there other comments on this important subject? Any from OBO? Okay. Just before we leave it what are the incentives? I know we have restrictions in the government but I'm just interested in what are the incentives for attracting new talent from

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the universities or wherever?

MR. RITTENHOUSE: I actually don't like the money thing also because it is really short-term and the person who comes for the extra \$1000 or \$5000 or whatever it is is just going to go someplace else for the next take. And that's one of the reasons I said before about some of those that come through a headhunter. The fact that a good headhunter can find them a good job is going to keep finding the next job.

And one of the things that has made us quite successful is allowing the people to go wherever they want to go. We give these guys a lot of rope to do what they want with just enough rope so if they hang themselves we can unhang them if we have to.

And one fellow in our office comes to mind, does a wonderful job. Joe has worked with him a lot. Just gave him a lot of responsibility and he keeps doing a wonderful job and just knows that he has more, can get more responsibility by taking the reins of his projects and his career he can - it's limitless.

And so we offer them the opportunity to improve

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themselves both on the project level and the corporate level and beyond. And the downside is you have to be able to make sure you see that through. Down the road you can't say to someone, listen, if you do well you can be project manager or principal or the grand poobah, whatever, give them that too because if you create someone who you then don't have room to put him into then he is going to leave, right?

I just remember in the Wall Street Journal last week the whole thing of where all these GE executives went. Everyone thought they were so great. You look at how they actually did a couple of years later. They're not doing so hot where they wound up. But GE couldn't hold them either, right? They wanted to make little CEOs out of all these guys so they went out to be CEOs elsewhere. The market caught up with them and they're not doing so hot.

But you have to give them the opportunity to prove themselves and challenge themselves and that is the greatest incentive. If they see there's no ceiling then they are more apt to come to us.

I have had people who interview with us and

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competitors and have told us afterwards I didn't come here for the money. I didn't come here for that extra thousand. In fact, so and so down the street offered me a little more. But I saw where the core, the founders went. They saw where perhaps I have gone. They have seen where the people behind me have gotten to in short-term and they realize that they can set their course. And that is more important than the money.

So if they know they can come in and they can move up and they're not going to be stifled by politics, the micro-politics, there is no incentive better than that.

GEN. WILLIAMS: That is company culture. That is important.

MR. RITTENHOUSE: And teach it to others within the company sometimes, too.

GEN. WILLIAMS: Right. Just on this matter, do you think the business of the organization or the culture of the organization, leadership, management, all of that stuff which is not money, do you think that is overriding than some type of incentive? I'll give you a little something to sign on. Because, you know, it's important to

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us on where we should be putting our emphasis.

Obviously, we know the dollar piece is pretty much out of the question for us but we're trying to look for that attractive hook. What is that thing? Yes.

MR. READY: I think there are sort of two avenues. If someone comes to you and you haven't really identified them as a recruiting target but they come to you for whatever reasons evaluating that particular employment opportunity against what you need is sort of one process that companies take.

And basically, I think that is a little bit different from the decision to go out and recruit on a normal basis to either fill identified gaps or to continue to fill the team requirement because of attrition, because of opportunity has expanded and the need for more people to get the job done.

And I think the recruiting process then is critical in that how you pitch your company becomes, I think, college graduates and people who have some experience in the field in which you are recruiting, most of them get pretty savvy pretty quick about the environment

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in which they want to put themselves.

And if they see that you are offering them an environment that has enough structure and enough support to where their ability to learn through small failures and small successes and get their feet on the ground and do that in an environment where they can pay the bills and they can have a life, a lifestyle but money not necessarily being the big issue, it being a mechanism, an environment in which they can step in and know they are going to be valued and supported and mentored.

And then once they demonstrate that they have learned some lessons and they have been able to serve in whatever capacity you have brought them in, then move on up. I think that is a much more important process.

And that is really - the recruiting process is a completely different animal than most of us are used to dealing with. I mean, we may go out and be pitching and selling, but it is one thing to pitch and sell your company as a vendor; it's another to constantly be pitching and selling to bring talent in.

I don't think most of us do that real well. We

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over promise. We don't understand what the concerns and fears are of the person we are recruiting. I think that is where to recruit talent in, maybe getting a good headhunter and changing their focus and attitude might be -

GEN. WILLIAMS: I want to just ask you kind of a loaded question. You know I always have a couple of these. What are the turnoffs for government? You guys are out there.

MS. OLSEN: I was just going to say that, good or bad, the government has the perception of once you're in you're in. Now, in the cycle in the economy and everything, that's the good thing because there are too many college kids worried about getting a job tomorrow.

So I think that the benefits, all those things are strengths now. In the '90s they weren't strengths. People were coming out of college thinking they were going to earn if not six, five-digit incomes and going straight to the townhouses. Forget the condo. Everything was big money. But now people are looking at what does it take for me to live. And stability is an important thing. So I think that the government gives the perception of

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stability, whether it is true or not.

GEN. WILLIAMS: Yes, Joel.

MR. ZINGESER: Before I try to speak to your last question I would say that on the positive side, when I think about presenting our company to potential future employees at whatever level there are a few simple things, none of which is money.

One is what we do, the way we do it, where we do it, and the fact that those that have been with us a long time present themselves to these potential candidates with enthusiasm and gusto for what they are doing.

I would say that you have the same situation. I mean, we work on very special buildings, in a very special place, in a way that has been proven in terms of quality and success. Our people have been with us for a long time, many, many of them. We have nepotism. We have lots of family members working in the company. And there's a lot of enthusiasm for it.

So when we get a college student who has got a construction degree and an interest in historic buildings, for example, and we put them as an assistant project

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manager on the complete renovation of the Archives, he's a pretty happy person.

So having said that, I think what this organization offers is exactly the same thing, tremendous excitement about what you do, where you do it, the quality of what you do, the enthusiasm for your organization, a tremendous - to me a tremendous benefit for recruiting purposes. Again, a certain type of person, someone who's interested in those things obviously.

Again, I think Robin's absolutely right in terms of the notion of the government being a place that, A, it's hard to get in but once you're in they can't throw you out. Well, that may or may not be true in both ways but the fact that in this day and age in the world that we live in working for the United States State Department seems to me to be a pretty exciting thing to do, especially in the things that you're doing.

So I would say whether it is at the technical level or business level or what, I would say you have a tremendous asset in recruiting.

GEN. WILLIAMS: Yes, Bill.

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MR. MINER: General, I might just share some of my experience in managing the intern program we've had for architects and engineers which goes back to the late '80s, early '90s. Just the three pros and the three cons that I heard from those students as they came through.

The three pros, students are pretty simple people. The fact that we're global and that there is travel to interesting places and different cultures sets us apart from other agencies. We are attracting college students and we're competing against other agencies we look very, very interesting from that standpoint, more so than say the architect of the Capital, certainly the Veterans Administration, or Bureau of Prisons, for example. So the opportunity to travel with us is very, very enticing.

The other component of our program that they said they liked was our rotational system, that we did not bring them in and sit them down to be architects. We would have them spend several months as designers in architectural engineering and then we would rotate them into the planning office.

They might get involved in some real estate

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activities, and then they would spend some time actually on site during the construction phase of a project. And then ultimately some of them expressed interest in the operation and maintenance side or security engineering.

And we would sort of tailor a curriculum over about a two- or three-year period on their interest, their backgrounds and their goals. And other agencies don't quite do that the way we do.

The third thing that was often cited was just the exposure to the industry, exposure to the types of people that you have around the table here and the wide range of architects and engineers that we had engaged in our work that they would not come in contact with if they were sitting in one office with one group of professionals. So that is on the pro side.

On the con side, the government, they find out very quickly, is extremely bureaucratic and that is a little frustrating for 21-, 22-, 23-year-olds who like to go from idea to implementation very quickly.

The security clearance is an enormous hindrance to bringing them on board in a timely way. In our first

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class we graduated the class before some of them ever received their security clearance. And that's just sort of a big disconnect. And that is something that we just have to live with.

Another disadvantage from their standpoint was the lack of actual hands-on design that while we do a lot to foster and develop sort of the soft skills that I was talking about we do very little in-house design. We do a lot of design management. And they felt that their classmates had gotten more technical exposure, and they did, than they had gotten.

And the last was a lot of people just don't want to live in Washington, D.C. If you are younger, tight budget, this is an expensive city. It is seen as not a very happening town for young people, and just the location is not as appealing as it might be in some others.

GEN. WILLIAMS: Excellent.

Mr. RITTENHOUSE: Try to get them into New York.

GEN. WILLIAMS: Yes, Ida.

MS. BROOKER: Another element of the upcoming entrees that are coming into the work world is that they

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are far less - they don't like the formality of working in the government. There are very 8:00 to 5:00'ers. They want flexibility. They want to be able to have flex schedules. Their life does not revolve with free time between - with 8:00 to 5:00 they go to work. I mean, it just doesn't work that way anymore. And they want the flexibility to be able to take care of business and take care of home life together and blend that.

We are going to a far greater flexibility in our schedules to allow for work four hours, take two hours and go do something, come back and work four more hours, much more of a flexibility.

Virtual office is becoming a mandatory requirement for some people. They don't want that commute every day. They want to be able to - one of my dreams about ten years ago was that you just go to the strip mall down the street, plug in and you're there. Well, you know what? That's here today. We have hoteling spaces all around Puget Sound where you go within three miles of your home, plug-in and you're connected, hard connect to the secured Boeing site networks. So that is what the younger

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generation is looking for today.

And they are wanting to be able to integrate their personal life and their professional life without having to say, compartmentalize this is one and this is the other. It blends together. And especially with wanting young children and both sides of the couple are responsible for those children and they need the opportunity to do that.

So I think those kinds of things are also coming in. They are not workaholics, that, you know, working overtime is a dirty word. They don't want to do it. And I have talked to some people here today and they said what do you do and they said, you mean besides work? And that is a problem that the next generation is not interested in that kind of a work schedule. They want to be able to have both and they are going to demand it.

And I think for people of my generation who are workaholics that is a hard concept. I mean, what else would you do in your spare time besides get on your computer and do some work. And they're just not interested in that.

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So I think the government epitomizes the formality of the schedule. It's 8:00 to 5:00; you be there. I think that is a difficult hurdle especially for micromanagers, it is really tough. But that's what it's going to take to attract the best and brightest and we have to be able to accommodate that.

GEN. WILLIAMS: Yes, Robin.

MS. OLSEN: It ends up being perceived choice. You have a choice in how you're going to spend your time, at least a little bit. You can split it up because you want to and you need to. I think that makes a difference.

MR. MOUNT: One of the challenges we are going to be faced with is something that we talked about early on, the perceived nature of government work as being permanent. And with the emphasis on competitive outsourcing and things like that, we may be losing over time that image that we're going to be a career for somebody forever.

And also the idea that you can move from agency to agency was an attractive feature, not that a lot of people did it but that it was always available to you. If

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things didn't quite work out here or the work shifted you could move to another agency within the federal government.

But with competitive outsourcing where you leave a secure place to go to a place that is at high risk so I would be interested, you have had to face an organization that has downsized and upsized several times over the last 20 years. How do you continue to recruit good people when they read in the paper that Boeing goes up and down as we may be going up and down?

MS. BROOKER: There is some prestige in working for certain organizations and so far we have been successful in getting people back that had to be laid off which is one of the reasons, one of the problems with people who are laid off that other people don't want to hire them because they know if Boeing crooks their finger they're gone. And that's a problem.

But that is why staffing to those steady levels and not trying to staff for the peaks and valleys is very, very important, because going up and down and laying people off and having them come back is so disruptive to those

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people's lives and the company as well.

MR. MOUNT: That's one of the big lessons Boeing learned in the '70s when they cut back so heavily, not to go all the way back up.

GEN. WILLIAMS: And I have heard this twice this morning that dealing with what we call surges, Derish mentioned it and Ida as well, is that probably the best way to deal with that, particularly since you are looking for now, immediate skill sets that you need to do a particular job, the whole notion of competitive outsourcing might be one of the ways to look at it. That is a fresh way to kind of look at this.

We can approach, we the government today approach the outsourcing through kind of a skill inventory, kind of see who's ahead and call an exam on everybody and that does, to some degree, touch on what Gay talked about. It kind of disturbs that constant you're talking about.

People began to say well, gee, what is this? Am I going to be subjected to a job examination every year or whatever? Maybe it is not so stable.

So a better way or at least another option of

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looking at this whole business of outsourcing is to look at what is on that above the constant, the core if you will. And then this is the typical kind of job, IT, et cetera, that I would want to deal with, because that does come and ago. It depends on a lot of things.

Of course, you know the first to go is that which is not the core. We all know that. So this is very interesting and it gives us some thought as we interact with the larger part of our organization on this whole issue of competitive sourcing because every year we have to deal with it. And I'm sure there are many around me, around the wall, that understand what I'm speaking about. David.

MR. READY: Just a quick comment. There is a whole group of workers out there that, maybe they are the cowboys of the various industries, but in my experience with Houston, especially petrochemical, which all the engineering and design and all the things, you had a whole subculture of workers who were very skilled and highly paid but they were pure contractors.

And they knew that they were on a project and it

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was going to run 37 ½ months and they bonused out if they finished early. And literally you had the specter of whole floors of engineering firms finishing early, bonusing out, and getting the pink slip on the same day that they got their bonus.

And they understood and they liked that. It was an interesting kind of excitement, and they knew they were always going to be going to something new. They knew they weren't stuck doing that steel design for that thing one more day. And they lined up - I mean, they understood what the environment was, so when they knew they were down to three or four months they were already lining up to walk out the door to pick their assignment someplace, or they were planning to go on vacation, or whatever they were going to do.

But it was a different mindset from a traditional employee who looks to come on with a firm, thinking about a career, doesn't have a horizon of when they're going to leave that agency or that firm. And I think you have to recognize that there is a number, especially younger workers, who perhaps until they recognize that they don't

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live forever and they need to have a retirement, that likes that excitement.

And they are very useful to plug in for short-term duration, three years or less. Very skilled, very willing to do the - my experience is they were willing to burn all kinds of time because there was a compensation. There was an excitement. There was a team to get the thing done, be the best, all that kind of stuff. And it was - and then when it was done it was done.

GEN. WILLIAMS: Well, are there other questions? This is a very, very interesting topic. Very interesting.

MR. RITTENHOUSE: Can I ask a question? Just looking at the magazine what are the individual awards do that you give awards to your staff for.

GEN. WILLIAMS: Yes.

MR. RITTENHOUSE: What are they?

GEN. WILLIAMS: Money.

MR. RITTENHOUSE: Money?

GEN. WILLIAMS: And a certificate.

MR. RITTENHOUSE: Really?

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GEN. WILLIAMS: A nice handshake and a photo.

MR. RITTENHOUSE: And a coin.

GEN. WILLIAMS: You have to stand beside me. All of that. And the latter is really worth something.
(Laughter)

MR. RITTENHOUSE: Been there. (Laughter)

MR. ZINGESER: Gina, you got an award. Where are you? What would you like to say about that last comment?

MS. PINZINO: Definitely worth it. Worth it every step of the way.

MR. MOUNT: Her photograph is autographed So it's worth it.

(Whereupon, Mr. Beard entered the room.)

GEN. WILLIAMS: Tod raised an issue because in the government it is far from - Jeff -

MR. BEARD: Good morning.

GEN. WILLIAMS: We just decided that design-build is going -

(Laughter.)

MR. BEARD: Want me to go back?

MR. ZINGESER: Thank you for lunch, Jeff.

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GEN. WILLIAMS: You raise an important issue that we really pushed a lot on when we decided to try to make our organization results-based because we really had to have some of that you just talked about. What do you do when it is time to do something for an employee?

And we really have made a big deal out of this. We kind of stop work and we move everybody into a big location. Usually it's away from the workplace, a commercial place, a ballroom, and take a couple of hours and really do it right. Call everybody's name, even those that happen to be traveling or whatever, we recognize them.

You get a nice certificate, in many cases framed, in most cases framed, well done and they are recognized in front of their peers. And it has a few thousand dollars with it.

And we do this award ceremony at least three times a year. My idea is to do it quarterly. And it is a winner. A lot of good comments and compliments.

I will give you an example. There was a group that, getting after what really turns people on, they were

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interested in Toastmasters. They took their lunch period and on their own formed a Toastmasters club. It became linked to the national organization or whatever and then came to see me and asked if we could sponsor that, in other words, if they could be legitimate. And again, we made a big deal out of that as well for them and gave them nice recognition and an occasional coin will be passed out.

And so this is a way to kind of help with that as well. We have found that people meet me on the elevator, talking about those kind of things, talking about the award ceremony, talking about this kind of thing. And we again try to use our little publication, which we call The Bugle, and tell the rest of the world. So their name gets flashed twice. They go through the ceremony and then this becomes kind of a living memorial to that.

MR. RITTENHOUSE: That's what I was talking about before is that, an example, we have the ability to give monetary incentives, and it's a good thing to have because everybody likes that. At the end of the day it really works. So when I saw it, I figured, well, I was curious what that was.

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And that directly speaks to they have opportunities not only with you to travel and to broaden their horizons but if they really do something special or put some extra effort into it, it might be worth a little extra money at Christmas time or vacation time or whatever.

GEN. WILLIAMS: That's right. And this is what this serves well for. It's a few thousand dollars you can augment your vacation and you can - it's a neat way to be recognized. And then, of course, the big thing is to set up and have the certificate read. And a lot of these are group awards. It's group awards.

And, for example, there was a person - we have this a couple times a year - that unfortunately needed some CPR once. And so three or four ladies or so who were trained in this, and I think one gentleman, administered CPR. So, to us, this was making as much contribution to the organization as anything else. So we illuminated that and gave them all an award in recognition. And the person was there and he could attest to it.

Just trying to deal with what we call the human capital side of the organization because it is so critical,

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and with trying to chart a little different course and that's the reason we have put a lot of emphasis on this.

That is the reason these two questions are here because we recognize that we have to pay a lot of attention to that while we're dealing with how to make sure that the buildings have proper engineering and particularly blast protection these days.

We cannot forget the fact that we have about a 1000-person workforce that we have to deal with as well. And that's the whole reason this issue is here. And we're just trying to tap your ideas on that. Yes, Rodney.

MR. CONRAD: You asked the question earlier how do balance or what is the perception of sort of maybe the monetary incentives versus the structure of the organization, the perceived hierarchy, the opportunity for advancement. I think when you look at that within any organization or any bureaucracy, or certainly even on a larger scale across the profession, something that we, I think, can maybe come to a little later than some organizations and maybe even earlier than others, is the concept of a mentor. And not so much the informal concept

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of the mentor, which is great when those evolve but formalizing that whole thing.

And we have approached it or begun to approach it across the profession in sort of a virtual mentorship. So it is not necessarily someone who is physically adjacent to you or in that same office or necessarily in that same particular discipline area but it could be someone in San Francisco mentoring or choosing to mentor someone in Washington, D.C. or Tampa or wherever.

And it could be for a variety of different reasons, for their professional track, their educational background whatever that may be, but that value for the professional development side so that as you are coming into a workplace or coming into a profession and you are encountering questions about advancement or questions about which professional opportunity might be better or where might I go to get more soft skill training or technical training, whatever it may be, you have got somebody in a more formal process that you can begin to discuss those questions with, ask those questions with, and work that, I guess work to maximize that professional development.

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And the other piece of that is we have talked about sort of the recruitment side but it is retaining the good employees and it is retaining the talent that is coming through the ranks. And so we're looking at that as a vital component for the future within the profession of being able to retain the people that are coming in.

Maybe it is a little - I don't know if other professions are dealing with it but in architecture we have noted a trend where we have a lot of people graduating from school, they are getting their degrees but they're not necessarily transitioning into the profession.

And there are a variety of reasons for that. There's a multiphase exam that takes some people a long time. There's the internship requirement that some can do concurrently with their education requirements, others do later.

So there are a variety of what can be perceived as some barriers to entry to that profession. And so part of the mentorship program is to try - you might not necessarily solve the problem of the person who never takes step one in the profession but you're trying to link those

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folks up in the academy and in the educational arena, and as soon after they are in the profession as possible, to link them with more experienced folks to help them navigate that process and give them the encouragement and the professional guidance as they're going through.

It was interesting, just as an aside, I just heard Gen. Flowers with the Army Corps a week or so ago outline a new program that the Army Corps was planning on rolling out. And it was almost exactly as I just described in terms of a mentorship program.

And they're looking at taking someone in District X and linking them with someone in District Y to try to address some of those same issues and to really continue to maximize development and retain the various talent that has been brought into the organization.

We're looking at it, as a profession, as a key component to giving information to people who are coming in to say there's going to be a path to help you through some of these things and help you understand, deal with them, and give them guidance as they are facing the various challenges and then, hopefully, convert that into retaining

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that talent long-term and then hopefully certainly cycling over so that person becomes a valuable asset that can continue to make that cycle work.

GEN. WILLIAMS: Very interesting. Okay. I think we have spent considerable time on this, never enough. We could really talk about this subject all day because it is a real interesting one. I will tell you, even around the world, as far south or east as Kenya, when we were opening our new embassy, one of the leading journalists for a leading magazine wanted to hold an interview.

And the whole focus after we got past you build them a very, in his words, strong building then he spent 45 minutes talking to me about this whole issue of managing and dealing with the gaps in talent, as they call it. But it's the same issue that we are talking about right here.

Clearly, that country is many, many years behind us but the fact that they are thinking about that, the professionals in the construction field. In fact, their magazine is called Construction Review. And it's a very interesting kind of magazine.

But the focus was on the fact that we are very

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concerned about this whole talent base. We just don't have the people with the skill sets and the like, or those we have, they run off to other firms and they go away and that kind of thing. So it is not just here in our country. I think it is around the world where professionals are addressing this gap.

Okay. We're trying to do one more before we go in. Let's talk a little bit about estimates. It's very critical to good discipline and keeping, particularly in our business, because we have to live with the estimate. And I don't know whether you do this or not. Our process is such that once the program is locked in, it passes through the vetting system and receiving the appropriate approvals et cetera, time is obviously marching on, events are changing, et cetera.

So it requires that we have an awful lot of discipline. And most of our programs are geared toward this discipline. And the standard design and the design-build delivery method, and all this integrated reviews and all this business that we - these best practices we have put on the table are geared to trying to discipline that

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process. So estimating is a real important piece to us.

This says get the right estimate for the total project is critical, obviously. We are interested in what is your failsafe approach to tight estimation, because we have to do it tight. And we just don't have the waffle room and we cannot maintain credibility with floating estimates.

Number one, you know the government dollar is scarce. Once it is appropriated it is that dollar. The only way you get an augmentation to that dollar is to go back and be convincing that something significant has changed. So that is our dilemma. Talk to me about tight estimates. Yes, Derish.

MR. WOLFF: Well, of course, if we get us - I could afford to fly down in my own plane. We typically have two teams that are separate on significant size job, two teams that separately estimate the job, and we compare them. They can't talk to each other until they finish their estimate.

GEN. WILLIAMS: Two teams?

MR. WOLFF: Two teams. Two different teams. And

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then we also have senior people, which I know you do, have parametrics costs so that we check both teams to make sure they're both not wrong, by rules of thumb, things we know about.

And the third area is that we make them flag out unique costs which then goes back to the value engineering cycle. But that's a different story. So they have to flag out why the parametric cost may not apply, what's unique. And, of course, it's always security and communications at OBO. So those are the basic steps.

If it's a megaproject what we go into is a very - but that's really huge and while your projects are all lovely and challenging, fortunately none of them are mega.

GEN. WILLIAMS: Right.

MR. WOLFF: And in megaprojects we go into forward cost monitoring, which is a very complex system where you force the estimators to explain all the steps and all the assumptions which you then build into a model, the assumptions as to inflation rates, labor rates. And then you monitor them through the life because you find out in many megaprojects the basic assumptions were wrong in the

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first estimate or people forgot about them through, you know, the project was shopped around for two years and then you went ahead and you started with your old estimate because you had been shopping that estimate around.

So you force a discipline but that doesn't apply to you with forward costs. But for OBO projects and with the standard designs it should be easier with the parametrics. You just basically - I would recommend two separate cost estimates, this parametric review, and flagging out the unique items which then get back to Bill and they say, we didn't realize - do we really need it.

GEN. WILLIAMS: That's excellent, the two estimate, two-team estimate and have them bump their numbers against a parametric? That's wonderful. Yes, Tod.

MR. RITTENHOUSE: It's kind of a different business, different scale business, from what we're speaking. We actually do the same thing. When a new project comes out I'll give it to one partner and say you just tell me what you think it costs and I'll have someone else or I do the other cost and then say, okay, well, what

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is it really per square foot or some - and build it up on two side guys, compare and take the average.

It's interesting because it raises two questions, well, I just assumed it was very complex because of that issue or this issue. And so taking it from a megaproject, never the scale of his projects, but we always try to do that because any one person can misestimate. Oh, you know, I thought that was a nonseismic area. Boom. There's a big change. So it will foster some conversation leading to a better cost estimate on our behalf. And our scales are so much smaller than Derish's scale.

MR. WOLFF: Just as an aside, one of the reasons we like, the same reason Tom liked parametrics is because the contractor is going to use it is as a cross-check also. So you may have the most brilliant design in the world and the contractor comes in and counts and says six toilets and adds them up and multiplies them.

GEN. WILLIAMS: A simple way of doing it. It has nothing to do with beauty.

Mr. WOLFF. Or all the savings you put into the design.

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GEN. WILLIAMS: Okay. That's interesting. Other views about sort of getting the estimate tight? I like this two-team idea. This is wonderful. As you know, we have the parametric, as you know, which is a derivative of our standard design. And then, of course, two teams and not, I think you said you don't share, you don't let them talk to - that's the other one. Terry, that's going to be tough unless you send one over in Maryland.

MR. WILMER: We'll separate them. But if I could, I find that a fascinating idea. Do you give them the same sets of assumptions or do you say here's a project. You go out and get answers if you have questions in terms of the assumptions, and then let them do their own thing and see if they're close?

One of the things that strikes me, one of the real problems you have in doing an accurate cost estimate is making sure you get the information correct up front, you have the right assumptions, et cetera. And this is something I spoke with you about when we came back from Rome, the assumptions and how they would drive costs. So how do you do that? Do they do it in the blind --

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MR. WOLFF: Uh-huh.

MR. WILMER: Totally in the blind? I like that.
I like that because then --

MR. WOLFF: You don't want to skew --

MR. WILMER: If you see a significant change you sit down and say what drove the change here and you then enter the dialogue of well your assumption was wrong. We need to go talk to someone to make sure we have it correct.

MR. WOLFF: And the flagging comes.

MR. WILMER: The flagging.

MR. WOLFF: They argue with each other and say, but you missed this or I missed that.

GEN. WILLIAMS: In other words, you require each team to kind of flag the unique things? Okay.

MR. WOLFF: Because what I'm always afraid of is when we went to school and they had Psychology One and they had these cats or dogs that would speak or something but they were getting signals from their owners. So I'm always afraid, if you let them talk long enough they'll both have the same estimate.

MR. TOUSSAINT: That's true.

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GEN. WILLIAMS: In other words just send them away?

MR. WILMER: In the blind.

MR. MOUNT: Ida, you're an owner. How do you do it?

MS. BROOKER: We do two independent estimates. We do one in-house and we hire one outside. And they do it in the blind, just like that, because otherwise you can't - you can't let them talk to each other because what happens is then they both start approaching the project in the same manner. And in construction there are as many ways of building a building as there are contractors out there. And so you need that diverse attention to approach to the project.

But I think that on - one of the comments - I sent out your questions to a lot of people in my organization. One of them was they thought that a failsafe estimate was a contradiction to the term estimate. (Laughter) If you had a number you could rely then it was no longer an estimate. But there are some things that happen in a project.

MR. WOLFF: They're sending them to the wrong

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program.

MR. WILMER: What do they have a degree in, English? (Laughter)

MS. BROOKER: In order to complete a project that agrees with where you started from with the estimate that you put together at the very beginning you need to do a couple of things. And one of them is that you need to have a good risk management program on the project, first to identify where your risks are on that particular project, and in the case where you are building internationally that could become a very volatile issue.

And I think that under, you know, one of our old directors, presidents of the company, a guy, a real character by the name of Mel Stamper used to have this saying. He says, you know, those known unknowns are bad but those unknown unknowns, which he called unk unks, will kill you.

So once you know what you have possibly coming down the road you can at least prepare for them. But without that risk management activity and evaluation it's hard. And so what you need to do is educate yourselves on

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what the risks, where the risks are.

Then you need definitely a schedule that is sane rather than most schedules in the construction industry which are insane. A schedule that allows for the methodical construction of the project in a time frame that makes sense and is cost-effective. The third issue is you need a change board, you need to control the changes.

And with the setup you have in the OBO you're much more likely to be able to do that because I understand that you have a pretty big hammer and you can just say no. There's a lot of organizations that don't have that advantage. But that's a very - I mean there are changes that do come up that you need to consider but you need to have people in that controlling position that say yes or no and make sure that they have the authority to do it.

And then the last thing is to make sure that the cost information gets communicated immediately. If you have a situation that comes up, a flood or something of that magnitude that is going to affect the cost of the project, you need to get it right away.

You need to have immediate advisability on where

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the problems are and what is coming down the pike so that you can have the opportunity to mitigate or to change what you need to do to keep in budget. It depends on what's driving the project.

Like we said earlier, is that time driven or is it cost driven? And if it is cost driven then you have an opportunity to do some other things but you need to have that information immediately.

GEN. WILLIAMS: Excellent. Are there other comments about this issue of estimates?

MR. WILMER: I have a question that is somewhat related. How do you learn from the estimates? Obviously your cost estimates come in. You then have the reality somewhat down the pike. How do you compare the two and then improve your cost estimating process?

MS. BROOKER: We have a model that we use when we have the similar construction, although we don't have as many similar projects as you are appearing to have. But you have a model and there are certain-type buildings, some of our famous products that we build there are certain

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givens and then you have what is out there that affects that such as your site conditions, your location of the site. Those are the things that you learn are going to be the big swingers.

So what you do is you take the pieces that you have that are known and then, again, you take the model and you have - you know where the differences are going to lie. They are going to be affected by the distance from your nearest rail line, the distance from your nearest port, the actual condition of the site. Those are where the problems are going to come in that are really going to affect you from project to project. And you just build that in your model.

So what you do is then you look at the model and you ask the contractor to produce a cost estimate or at a cost performance so you can use that to verify your model, so that you have it divided in the same areas that you want to have in your cost model, the roofing or however you want to do it, by floor or by function or by spec division or however you want to do it. Then you have your contractor report to that so that you have the long-term analysis to

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verify your model and whether it is working on not.

MR. HOCHULI: What kind of experiences have you experienced between the original cost estimate and the final?

MS. BROOKER: Do I have to answer that?

(Laughter) We don't have a hammer. My first project when I came back to Boeing was an \$87 million contract; it ended up \$205 million. Of course, they forgot to tell people things, like cooling towers and engineering foundations and a few other things. But we as a corporation experience more changes than any other corporation that we benchmarked against.

And that is because the people driving the projects are program people, which is the real advantage that Gen. Williams has is that in OBO the people who are going to be managing, maintaining and running those facilities long-term are the ones building them. A huge advantage over the way we do business.

It's a real hard call to make whether you are building a project for a program or you are building it for a long-term investment for the corporation. I have seen

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both sides of the coin. It's a hard call. Who would guess that we would be building 757s in a project - or 737s in a building that was built in 1935? The fact is, we are. Did we design that building for that kind of flexibility? No, we didn't. It just happened that the new model fits in it.

But the fact is that you need to have a clear view and you need to be able to have and understand where your risks are. Is your risk to the cost of the project or is your risk in not having the facility built and operating in the time that you have, in the time frame.

We are time driven. There is no doubt about that. We like to say that we are cost driven and we like to try to manage our budgets but the fact is when you are building a commercial product you are time driven.

And it was a very hard concept for me to learn that if you delay the opening of a facility by three months you can have - you can lose the benefit of marketing a product. And three months is a huge amount of time in some industries. So it depends on whether you are cost driven or time driven.

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And so in our case how we are driven - now, ask me how well we do with schedules and I'll tell you you won't lose your job over overrunning the budget but we have people that aren't there anymore because they missed the date. It is just what you have to accommodate for your industry.

GEN. WILLIAMS: See that is very, very interesting, because Ida is right. We have a very careful blend of the two because, you see, in government you cannot - if you stand up and say I'm only concerned about the schedule and not about cost you will have a short tenure as well, or the other way around.

So you have to strike a very careful blend. And she is right on. It forces the absolute best discipline you could have, and she used the word 'hammer.' You have to do that because, number one, what I call staying in the box, and that is the box of the cost. And that is framed unfortunately by the stakeholders, the people who provide the money, and that is our Congress. And it's your money. It's the taxpayers' money.

And you've made representation that you're going

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to do something and you have to stay within that box. So yes we have to be cost sensitive to that extent.

Number two, we are under the gun and have a very critical mission, and it is a good one because we have to deliver products that are critical on some reasonable time frame, maybe not to the extent that Ida has to because just a little different situation, but we can't be sloppy and fragile about our end games either. We have to - because we have a situation that is very critical where we have to set time lines and allow people to move in.

So it's a careful blend, big on the staying in the box, in the cost, and then having a very reasonable schedule in place. So a lot of discipline. And that's the reason we are asking these questions. We are asking a lot about cost estimation. This had a lot to do with going to design-build which we thought we could shave time and months and all that off.

This goes against the grain of an earlier conversation we had and we know this. And that is the reason we are so fortunate to have you guys around the table because it goes against this sort of ordered process

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for the so-called value engineering where you can do one and stop and debate and think and analyze and whatever.

We really don't have time for all that. We have got to do it right up front in planning, catch it a little bit during the design-build process then we've got to let it go.

So that is sort of the dilemma we are dealing with and there are some crosscurrents here. But it gets back to the fact that, unfortunately, we have to worry about both, which makes it tough but we do, as you said, we do have the hammer.

MR. READY: I think one of the things that we haven't talked much about but is inherent in the conversation is the cost control and the project control. One of the things that I have found is that many of the contractors don't understand the dynamic of the expenditures of money versus production and results in the middle of the process.

And as an owner, and especially if the owner is involved in providing major pieces of the final project independently of the contractors, whether it be furniture

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and fixtures or whether it be independent contracting of certain types of services, the dynamic of when you spend money inside the project may have as much to do with whether the ultimate overall estimate is correct as individual pieces being particularly accurate, because you may have savings that occur in the middle that if you expend up front you may be able to achieve a reduction in those expenses or those materials.

Or you may have a particular staffing situation, the contractor is geared to put X number of bodies to do X number of things. And that's his schedule and that's his projected workload. He doesn't understand that potentially by perhaps speeding up one subitem may have a particular ramification. It just depends on that particular contractor or subcontractor.

The cost control mechanism very early on can identify problems before they become significant and allow you to adjust or raise certain issues or show you where you can achieve savings within the process.

I think most people, the cost engineering, the cost tracking process, is an after-the-fact. It is looked

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at as a bookkeeping, sort of, let it go, we'll pick it up later. It's sort of a - it's like doing as-builts. People forget until the wall is covered over as to what they did in there.

So it's something to spend some time on because it's a critical issue if you're going to be able to hold anywhere near your cost estimate regardless of how sophisticated and good the original estimate was.

Too many things happen in the stress and strain of the actual project moving forward but most project managers don't have the luxury of time to step away and say gosh, this dynamic is going on. There needs to be somebody independent doing the cost engineering that sees those different activities from a little bit different view and can advise the project manager or the owner.

And in some cases, the contractor doesn't have the same interest as the owner in achieving that particular savings. You have to be wary of that. The contractor may actually be building a case for change orders and knows, or thinks he knows, that your pockets are deep enough to accommodate another five or six percent.

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And his agenda may start turning toward getting that overage, and your agenda is much different. You don't have anything in the middle to pick him up or identify that change in the process unless you're independently tracking it.

GEN. WILLIAMS: Well, you know, David this is an excellent time to speak to something that I have talked a lot to the staff about, and I think you've heard me talk to other groups about it. There is no mystery in the government's business. We like to - I've been out there twice now, once on the Corps side and back here and then in the private sector.

There is no mystery. Anyone can find out exactly how much money is in each pocket. So there's no point in even trying to deal with that because the big lender is the same lender we all pay taxes to. And so that is rather open. So you don't get into those kind of mysterious games. We try to operate by looking at partners who participate with us, as we are doing here, in a very open collegiate way.

We are trying to get from point A to point B and

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we are working together to get there. And we have a fair and open kind of arrangement where you could work and achieve a reasonable profit but at the end of all of that we have to stay in a box and we have to complete the job at a reasonable time. So you strip all the mystery away.

Can we get into the change order business to an uncontrollable degree? No. And there's just no point in even going down that road in the first place because you know all the tricks and little notices that start early on, you know, for a guy with as less hair as I have you know what's going on. So you'll take the mystery away and just deal across the table and go ahead with it.

So this has helped quite a bit with the openness and just being professional and working at that because you can go down different paths and be on the same sheet and what we try to do is get everybody on the same - we are about getting this building built for our people as soon as we can and realizing that you're performing a service and for that service you need to make a profit.

MR. RITTENHOUSE: We have talked today a lot about cost versus schedule. And the thing you can't forget, and

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we touched on it earlier in confirming or validating the program, is that the AEC three-legged stool of cost, schedule and design and the aesthetics, you have to make sure you have kept that in check or attempted to on a number of these procurements that you have put out there but it's very important to balance the three. You can have two of them but you can't have all three of them optimized, right, so by perhaps fixing the design through the SDS or others, not all projects are built that way, but as you've spent all this time on cost versus schedule there is still that third leg there that can't be - that has got to be tracked as well.

GEN. WILLIAMS: Excellent point. Excellent point.

MR. ZINGESER: I guess I have been listening to this and I'm a little bit confused because we use the word cost estimate but I'm not sure at what point in time we're talking. If you're talking about preparing a cost estimate to go to Congress to get appropriations that is one level of detail, one level of knowledge and one level of understanding. No one, probably, has better data, better

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understanding of that than you do in-house.

If you're talking about having conceptual estimates or other estimates in the course of the cost estimate, the design or design-build team that you have that's again another level of knowledge and conceptual estimating from the general contractor's point of view is relatively new. I'm distinguishing between general contractors and construction managers in design-build entities, and the variances are great.

Contractors are very, very good at pricing a job based on the specific details and what exactly it is that's going to be bought and then moving it forward from there. So I guess the thing that I don't quite understand internally is, I am assuming - I'll go back and say I'm assuming you're talking about the very earliest estimates that you're looking at in terms of going to the Hill and saying we need to build a new embassy in a certain place and it is going to be based on one of our standard designs and this level and so forth and so on.

GEN. WILLIAMS: Yes, Joel. One of the dilemmas which we have had to live with and was quite frankly a

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plague and a problem through the years, is we get sort of one shot to do it right, and if we are sloppy on the front end and we really don't get our traction right coming out of the programmatic side of the house before we make the presentation to the vetting parties to put money against it, we are in trouble.

Yes, there is an understanding of any vet change or something like this but just that old, you know, I miscalculated this or that or whatever, those type things don't go down well.

No one would allow the project to be sabotaged because you needed a few million to make it go but the point is your report card and your accountability as a manager and a steward of the process is called into question because we are asked up front to present a cost and an estimate for the job. And since this is supposed to be what we do everyday we are asked to get it right.

If you look at all the agencies, the Corps and everybody, they always have big issues and big splashes in the paper when they have overruns. Overruns in the government is not good business. It's not good business

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because, you know, you have a lot of critics there.

So we have put a lot of emphasis with a lot of good ideas from this body over the years of shoring up that front end piece and making certain that we identify and then discipline what you want done.

And if we, by some happenstance, sort of get it not exactly right, that is, maybe we should have done something a little different, added another whatever, we catch the next train because we're rolling these out sort of on this, I hate to use a manufacturing type of analogy, but that's kind of what it is.

And we can always tweak a corner or do something next time around but what we cannot do is to be estimating this thing throughout because once it is vetted through the final adjudicator and a number is plugged on it, that's it. And it is there because that's what you asked for.

And so that is the reason we have had to just, in fact, freeze it once we advance it to the program because at that point it is over. I'm not going to say we don't have a little leeway but there is not enough to even talk about it. There's no point even going down that road

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because it just gets, in my opinion, a government organization in trouble.

If you leave it open-ended, and when I did the toll road dealing with the private sector, heavy-duty financing from Wall Street and other places, we had an opportunity to tweak and fine tune and do all of those things and rise with the tide. In the government you can't do that.

MR. BEARD: General, having worked in the estimating field early in my career, I mean, we really have a challenge in our industry, where in manufacturing you can price your product, even a large product like an airplane, after the fact. In design and construction we are predicting way in advance on a very complex project what our project might cost.

Now, you pointed out a very important thing and that is with a preliminary design, with knowing what equipment you want, knowing what level of quality that helps a lot. But there are still some unknowns. You have a couple of wildcards that you always have to deal with. Labor and productivity in these various countries, given

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climate, given personnel, imported personnel that comes from the States, and availability of material and equipment and the delivery therefor. And that schedule can really impact it.

One of the things that we looked at in the Design Build Institute was kind of a different gradation of the estimates. So as they go through time, starting with a feasibility estimate, Terry, just more order of magnitude. And that might be something like plus or minus 30 percent then moving into a performance criteria.

Still no graphics, but in a performance criteria a good conceptual estimator might be able to get to plus or minus 15. And then going into conceptual design where we might be at plus or minus 7 ½.

But I think where you were going is you have really got to know that number. If you can do a detailed estimate, so you have to interpolate a lot, you don't have all the information plus or minus two percent because we're working in an industry where our margins are not zero to five, zero to seven, zero to eight. You have got to hit it. It's got to be - so you're making a lot of

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assumptions.

You're going in on the proposal that we are giving you is based on the preliminary design or in a pure design-build is really based on our proposal, on our response, we really have to nail it down and tell you what we're giving you.

Now, I have a question. I was wondering if you're doing your estimates upon a traditional 16-division breakdown? Are you using uniform as you get into detail or what are you using as a breakdown?

GEN. WILLIAMS: Uniform. You know, Jeff, you raise a very important issue, and that's our delivery. You know, I have thought long and hard about how to manage in this environment. I thought about this even before I took the job on because what you just raised is very tough.

And part of what we have been trying to do here is to get a little bit closer to being right. I know that we are not totally there but the whole idea of having a standard design, because, as I said, there's nothing magic about what we're building. Maybe one or two around, the Beijing building and what we're doing in Berlin. We kind

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of call those specials and they go down the normal way. We don't subject them to the standard design.

But getting the new embassies built around the world, we have six now that we're doing in Africa, there are six in Africa or three in the old Soviet, part of the old Soviet, East Europe. They are basically - we're doing it for the same customer, the same kind of configuration, et cetera.

So part of going to the standard design is to make certain that it is very easy to price. Okay? So all we have to do is to deal with the unique prevailing conditions and we have been after this for 75 years. We ought to have a pretty good feel of what it takes to work in East and West Africa.

So you frame your allowance for labor and whatever with the consideration on a few what ifs and whatever, and you work it out. I'm just saying that I don't believe it's a lot of mystery in what we're doing, now that we have gone to the standard design in order to make certain that we wouldn't be all over the map on estimates, because the truth of matter is that's where it

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had gotten the organization in trouble.

MR. BEARD: Just one final comment then about estimating as we talk about this. We are going with a standard design and a fixed-price contract, and that is fine, and that has its place. At DBI we have been diagraming project delivery systems, and owners have three approaches they can take. They can rent, lease or buy. They can go sequential, see them at risk, design-bid-build or bridging. Notice I'm putting bridging over there because we're diagraming and that's kind of a - or they can go integrated.

And I still submit to you, and I know my friend Harold Adams would - we talked about it at length many hours - that on your Berlin project or future Moscow if you could go a pure designer/builder approach with a qualifications-based selection you might get some soaring architecture that you wouldn't have imagined, that you don't necessarily need in a lot of places across the country because you're trying to meet that schedule that Ida talked about.

But I encourage you as you move forward in a very

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progressive way to expand your repertoire of delivery systems and allow yourself, even under a pilot, to try something that is out there like the British are doing, like the Aussies are doing and give it a shot. And we'll all learn from it.

GEN. WILLIAMS: Now, you do know that's the way we're doing China and to some degree Berlin. It is the traditional way to procure a building. Design, take a sigh. Then you bid, take another sigh or pray, whatever the case. And then you build. We're going through those steps on that one and we'll probably do that in a couple more locations around the world yet to be determined. So we're going to have a flavor of what you just suggested.

MR. BEARD: You just described your own process and I was talking about pure -

GEN: WILLIAMS: Okay.

MR. BEARD: Design-build on a future major project, yes.

GEN: WILLIAMS: Do we have one?

MR. TOUSSAINT: Yes, we selected one.

GEN. WILLIAMS: Which one?

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MR. TOUSSAINT: Toronto. Bill, do you want to speak to where we are today on this?

MR. MINER: We didn't talk about it yet because we want to see how it turns out. (Laughter)

MR. BEARD: Anything we can do to help.

GEN. WILLIAMS: That's why he hadn't told me yet.

MR. BEARD: Sorry to put you on the spot.

MR. MINER: The recommendation was heard about three or four towns meetings ago and we did get a task to find such a project. Now, in Toronto we had an unclassified annex and that solves one of the big concerns about what we're trying to build, and that is that we do not have to go through the traditional certification process with diplomatic security and with Congress.

And that was to be the primary reason why we had two notices to proceed, a notice to start design and later on after we certify to Congress that it was properly designed, a notice to proceed with construction.

With Toronto, we will get a notice to proceed one time for design and construction and we will see how it turns out in the end. We can perhaps give you a

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presentation later on about the progress of that. We're close to bidding that this summer and we will see what the outcome is.

GEN. WILLIAMS: And Jeff, we want you to stay with us on these bright ideas in that area because we do want to be flexible and try whatever we can. And we would like you to stay very close to this effort we're going to try to launch.

And we will do it very carefully and we will see how it comes out because there are no rigid walls around anything. We are being very flexible. We talked last time about design-build. We're trying to leverage the private sector to look for some of that.

We're trying to take whatever approach we can but not at the expense of creating a problem where we would be criticized for not being good stewards. But we're being very flexible with that.

With that, I think on that note, we all need a break to visit whatever appropriate facility you need as you migrate toward the food. And we'll ask Gina now to tell us what we're going to do.

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MS. PINZINO: Thank you. The panel members are kindly asked to follow Phyllis and the directors and managing directors to the dining room. And for our outside guests, we have OBO staff waiting outside the door to escort you to the cafeteria and restrooms. Thank you. We'll be here at 1:30.

(Whereupon, a lunch recess was taken.)

AFTERNOON SESSION

(1:30 P.M.)

GEN. WILLIAMS: Okay. Shall we get started? I think we want to do two things before we get into the

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business. First of all, I want to thank Gina for the lunch arrangements in general, Phyllis in particular for what she has done for the team and the panel members. And I hope that the rest were well taken care of and got a chance to do whatever you need to do during the lunch period.

So we are back and ready to get started and what we want to do this afternoon is to cover several key topics, the first of which is to deal with - just open up the whole idea of energy efficiencies and this type of thing.

I'm using it very generally because it is not a written question but I think I just would like to get some of your ideas as to what you are doing, how you're doing it, and we won't spend a lot of time on it but just to kind of connect the bridge to where I want to go with some other things.

It is not the concept of green or completely smart buildings but it has more to do more with the sustainability, that it connects real well to the operations and maintenance piece of our business. So I'm just wondering if you have any ideas about the whole issue

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of sustainability.

MR. READY: One of the things that strikes me because of all of the news coverage and the various things around the world that are going on, I am wondering what kind of excess capacity in the cases of systems like water production and food storage and communications, and perhaps even excess on-site electrical production, are built in with an attitude toward emergency contribution to local conditions and to perhaps be able to service local employees that are based in the area who, on an emergency basis, might need to be taken care.

I don't know what kind design criteria, if any, is built into that but it seems to me that that would be an important consideration given the instability in a lot of areas, the regions of the world.

GEN. WILLIAMS: Is Bill still here? Okay. Joe do you have anything to add to that?

MR. TOUSSAINT: Excess capacity is built in to keep the embassy itself operational, to support the emergency conditions of the embassy which would be every post has sort of its core group that would remain there to

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operate. It would not include the local employees per se and wouldn't include some American employees who presumably would be gone during an emergency situation.

We have a certain number of days that we allow for power generation to continue and for the embassy to stay in operation in its own regard. But that is pretty much it. I mean, we don't look beyond under an emergency situation of supporting the local environment, the local population.

Now, does the embassy become a safe haven for people? Not really, because again, the core function is protection of the U.S. government's information assets and so forth. I'm not sure is that was what -

MR. READY: Yeah, I mean, I guess the question is is there a mission criteria that falls into that additional area where not only energy-saving comes into it in terms of how much you need but what is the capacity to provide those potential peripheral short-term emergency types of missions that wouldn't continue for any long period of time.

But obviously the reality is you are going to have it from time to time in certain areas you may have

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them whether it's a natural disaster or other and is that part of it?

GEN. WILLIAMS: You know, you are asking a very timely question because - Robin, I'll get to you in a minute - just recently, yesterday, the Ambassador from Islamabad, from Pakistan is in a very difficult way, as you know. She has been at war since she's been there and she was discussing with me just that case. I got all of these things that I have, every day it's a new something that she has to deal with.

So there is really no way we can even the best urban planner can figure out what the enemy is going to do and whatever because she is in a war zone. But you raise a good question. Since we know that we are in a very unstable world I guess we have to make some assumptions that since some parts of the world will always be that way we probably do need to be thinking about these kind of aberrations.

Either we just don't do anything about them or we try to think about a way to deal with them. So your question is very timely and we just probably need to do

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some more thinking about it.

MR. TOUSSAINT: There is capacity there and there is security. And it's a very tricky issue. As I would suspect the ambassador mentioned they are in - their person at the scene, so they have very immediate requirements whereas we would take more of a standards approach to it, as I was describing our drawdown. But the reality is what is going on that day, that instant, and how the post responds to the needs of their employees.

GEN. WILLIAMS: And it is one thing that we can draw comfort from and that is today we are building on basically a ten-acre site and that site is enclosed with a protective wall. It's a nine-foot anti-climb wall. So everything inside of the wall basically, from a physical standpoint, is, quote, under protection.

This gives a little confidence in terms of capacity. Obviously, this ten acres is not saturated. There is a lot of open ground left deliberately in this way, some trees have been protected. There are athletic areas and the like so there is room to do something in terms of this aberration.

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As it relates to capacity of systems which might be the elevation of the question, I think we could probably say we are generally okay as far as that concern depending on what the upper limits of this aberration would be.

But to have something systematic where we could say today if this amount of something happened would we be okay? We're just not sharpening our pencil that closely yet but I think the notion of being on a green site, off Main Street and away from the hustle and bustle of town we can do more with our situation now than we can do with London whereas the embassy in London where it is sitting right now because it is virtually landlocked and street locked and everything else. And we've got what we got.

And that is the unfortunate part we find ourselves in because when you do have something occurs in, say, embassy Rome we're stuck with just what we have. We can't necessarily - we don't have the flexibility of doing some of the things we can do in the new complexes. Yes, Ida.

MS. BROOKER: After the last couple of years,

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maybe

year and a half, the power supply and power usage has become a much more relevant and conscious consideration. And what we're doing now is we're surveying all of our facilities whether - we have lots that are pretty old.

And what we have done is we have gone through and we have looked at all of our facilities, looked at what is the big power user, not necessarily directly but indirectly. Like we did a big survey, which I don't know that it would apply to you, but we did a survey of all the motors that are operating inside of our building. It doesn't have to do with the building, per se, but it has to do with generating heat inside those building. And then that heat has to be extracted by air-conditioning which puts the load on the air-conditioning.

So what we did is we did a whole lot survey of what motors do we have in there? Are they efficient? Are they cool? Do they run hot or cold? Do they need to run hot or cold or can substitute a high heat-generating motor for a lower heat-generating motor, those kinds of things, and said, okay, of these things what can we do that would

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have a two-year payback or less? And that's what we call the low-hanging fruit.

Went in, changed out motors and we know that is going to cut down on our energy costs. And that - sometimes in the Puget Sound area it's not a big deal because we don't pay much for our power but we felt that any kilowattage that we could save is better for the area and better for us, too. It's a two-way street.

The power companies in our area also reward companies for taking advantage of doing these kind of studies and they also partially pay for some of this. It's not particularly a whole lot but it's an incentive. And so we, of course, take advantage of that as well.

But we're saying anything that will reduce the use of our HVAC systems, keep - or whatever other power usage that we can cut down if we're not going to replace that facility then let's do everything we can to keep it more cost-effective in running it. And so that we found a lot of things in that area.

And then, of course, when we're building power usage is a huge issue. How can we be cost-effective and

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those kind of things. We also are looking at those buildings that have exterior windows, which a lot of our buildings don't. They're production buildings. But those that do we changed our landscaping plans to make sure that every exterior window that has got the southern exposure will it be shaded to cut down on the increased heat in those areas.

So we're starting to look at those kinds of things where we never looked at them before because Puget Sound had unlimited cheap power. So we didn't have to worry about it. But I think that now after the crunch in California during the last - a little over a year ago, it has become very, very apparent that anything we can do to cut down the power usage is a win for everyone.

GEN. WILLIAMS: Excellent. Greg, do you have anything to add?

MR. KRISANDA: Yeah. We did the same thing or similar starting ten years ago. We did one more option though, we looked at the maintainability of the systems as we replaced them so it was energy but also can we maintain the systems in the future.

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Other things we are looking is innovative new systems, microturbines in our new embassies and ways we can use the new technology. Also, how do we wire up houses and put them all on one microturbine and getting away from generators in systems like that.

We have done a lot of that work, looking at lighting, putting in energy efficient lighting and that was for security which was really tough because security wanted certain lighting, so we had to point demonstrate that this would give you the same light but it was more energy-efficient. So we've done a lot of that in the past and, of course, moving it into new buildings now. We were very aggressive in that area.

GEN. WILLIAMS: Very good. I just wanted to kind of -

MR. READY: Excuse me.

GEN. WILLIAMS: Yes.

MR. READY: Just to follow up very quickly. What was the horizon that your studies used as far as paybacks?

MR. KRISANDA: We looked at the early wins, the low-hanging fruit. We had the two year or less wins similar

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to what Ida was talking about. There was a lot of low-hanging fruit.

We also looked at operations, not just equipment but operation of the facilities. I mean, one of the things we targeted was the way to get people to conserve energy was not tell them to conserve energy even though we do that. We put in motion detectors, efficient equipment, things like that.

But then we looked at how we ran the buildings. You know, HVAC at night, were you turning it on and off. But you know, taking in the factors of the environment within the building. So it's a whole plan around that aspect.

GEN. WILLIAMS: Greg runs our - a deputy in our facility management division, so he is very connected.

MR. ZINGESER: I'm just curious when you put a new facility into operation I assume that there is a commissioning process in terms of getting the most bang for your buck in terms of its operation and so forth, making sure that the staff understands what they have, the occupants know what they have and how it works.

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One of the things with these new systems that we have put into buildings is if you don't turn the fan on you don't get the benefit of the fan. It may sound silly but where we have gone in and done work, put in - especially in our area where we're renovating a big old building that everybody knows, guys have worked in that building for 20 years. They know how to walk around and keep the systems running.

But the new system goes in and they need to be told that there's actually a fan. You can just turn it on and that's the end of the day. I guess I'm assuming that that is all in place.

MR. KRISANDA: Joe can talk about commissioning. One thing we also do is come back to the new building at a later time and take a review of their operation to see if they are getting the most out of the building. I will let Joe answer the commissioning side.

MR. TOUSSAINT: The answer is yes. But as Gen. Williams found out in some of his travels, the audience isn't always that receptive because of issues. In this case, we moved from a very outdated building into a modern

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building.

So with this needs to go, needs to include some training and then we have our contractors pass this over, and do the training along with the facilities managers. But it is a challenge. It's a challenge. But it is something that we are committed to doing, that we're doing a modern building and for them to work people have to learn.

We also have a feedback that goes into our A & E design guidelines so during the course of developing a project there may be some lessons learned that will influence the next generation of projects coming up.

Greg's people participate in that, in the design, the maintainability reviews and so forth. So it is an integrated system that has got its challenges. With commitment it will - and the standard design will improve that dramatically.

MR. ZINGESER: Well, I guess the other thing is the obvious, which is not only are there new skills that experienced people have to learn but there's also less people involved in these new systems and so there's a whole - it's very different. And obviously that is the benefit to

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having the new system in place.

GEN. WILLIAMS: We will come back to that in just a few minutes. I want to have a little bit more interactive discussion on the topic that Joel just brought up. It's an excellent idea. We'll get back to it in just a minute. Let me just mention a couple of other things before we transition into the last few.

The Association of Owners and Developers released on May 7th a new standard form of construction contract. We all know that there is a lot of standard products in place. This is AOD's version of a construction contract. We have presented this to many of you to take a look at so that you can digest it for your own purposes, obviously, and I'm having my staff review it and look at it, too.

Ideas come from many different corners. And this is another resource that you can put among your bag of tricks and look at the utility of it against everything else that you are dealing with.

This is by no means, obviously, an endorsement or promotion or any of that. We are an open organization. If the cleaning lady got some information I will take it from

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wherever they got it. We are interested in getting whatever we can to help our organization.

So it is available for the members and anyone else who wants to take a look at it. I think they have done a lot of work, and yeoman work to lay this out. You will have to balance that with everything else that you are doing and looking at and see where it may be useful. I will point out that I think it's been in the E and R. It's been in this edition of the magazine.

MS. OLSEN: Page 29.

GEN. WILLIAMS: Yeah, on page 29. So this is one thing we don't need any skill set tweaking on. Everybody can read. And I think you will be able to look through it and handle it. At one of these sessions we did a little bit of this last year. We will devote considerable time to just the management of contracts, which I know that Ida has had a lot of experience with, and we'll have our acquisition people here and the like and sometime down the way we will look at this. But right now this is fresh off the press for your consumption and to deal with however you find appropriate.

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Let's move now to another question. Now, this one is a very convoluted one, I should say. It is number three. Because we are talking about measurement we are talking about something quantifiable and about life-cycleness of a building.

How do you measure quality throughout the life cycle of a facility, quality from the standpoint of the building doing what it was purported to be built for? What tools do you use? How do you get the customers involved? What do you do is what we're trying to get after.

And I think you know where I'm headed. We have sort of a three-pronged issue now as we move out of this deep hole that we were in and we started producing some things. We had a discussion at my table today at lunchtime, we've got eight or ten of these facilities coming out a year. We'll have eight this year. Obviously, it's a sea change on maintenance going forward and all of that.

So we want to get as smart as we can early on about how can we measure the utility of this investment. And that is the foundation of the question. I know we are going to go in many directions once we start talking about

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it but who wants to blow into this one first for us?

Maybe I'll ask the staff person who thought about this for about six months before they wrote it down to tell us what we are talking about. Who was responsible for that?

MR. ROBERTSON: That would be Greg.

GEN. WILLIAMS: Okay, Greg, you're up.

MR. KRISANDA: I look at quality as a short- and long-term calculation, sort of like buying a car. You're happy when you bought the car. It's brand new and high-quality. You bought it because it was quality. You had no repairs, warranties. And then three years later it broke down and you say, oh, this thing's not worth it anymore. So quality and maintenance, short- and long-term investment how do you measure that? How do you know you got what you paid for for the life of the facility?

GEN. WILLIAMS: Well, the question is first, how do you measure and how do you know that you're getting your money's worth? Because it's not enough to just build a facility, at least from our point of looking at. We're looking at the life cycle and sustainability.

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And I know it is a tough one but Greg has been noodling this, as I said, for about - I asked him about six months ago to start giving some thought to it. And what are your views about that? Yes, Ida.

MS. BROOKER: We were looking at a lot of our facilities as they aged and got in a very heated discussion about the merits of one HVA system over another. And what we found is that no one had any data to support any opinion. And without - it's those three guys that are walking around with the wrenches in their pocket doing all the adjustments and fixing. And there's no records of what they did. And there's no - they didn't keep any maintenance or repair records, logs, at all.

So what we've done now is the only way we can do that is to come up with a way of keeping track of the repair process and the maintenance process. So we have instituted a computer system that handles all of our repair and maintenance activities. The maintenance activities are a standard periodic process that are recorded and then any repair calls that those systems get are recorded.

We haven't had it in place long enough to look at

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the track record yet. But that is, in the long-term, how we're going to go about figuring out what the total life-cycle cost is.

Our opinion is maintenance only and no repair. I mean, that's the goal. And we know that's not what we're getting. But again, who thought in 1935 we would still be inhabiting the same building? And so I think a lot of it is far greater usage of these buildings than we ever had planned. So you have to look at that as well. But that - it's important to understand that. And then it was looking at the installation costs as well. I mean some systems cost more than others.

And we have a lot of data coming from the manufacturers of this equipment that tell us great things about their system but no track record from any other users either. So we can't go with that data anymore. We have to see how we use it. The HVA systems get different usage in Puget Sound than they do in Long Beach, California. So we're looking at those kind of things.

But it is that and then the customer surveys that we do use, we utilize - and six months after construction

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and then once every two years we do a sanity check to find out is it meeting their needs? Is the facility in general and then get systems specifically, are their needs being met? Are they comfortable? Is it usable? Is it laid out well?

So these kind of things and how has - questions like how over the last six months have you changed it? Does the facility you're in accommodate that change, those kind of things. So that is how we're doing it.

GEN. WILLIAMS: Let me just take you down one more little path that parallels what Ida just talked about to try to get the integrative thinking and input about the whole idea.

We have been giving a lot of thought, and matter of fact this was done in our planning stages early on, about what happens when, and when is when the building is done because for those of us who are kind of in business we know that's when a lot of the work gets started. And that is where we have had some problems in the past because sustaining and maintaining and all of that is very key to the purpose intended.

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I am kind of exposing myself a bit here but I've done it before so it doesn't make any difference. I would be interested in your views about, and the public that is here as well, there is a dilemma now which we are rolling out, as I told you, about eight of these a year and soon to be ten. Hopefully, five years from now it will be 14 or so. We're putting these in the system.

And because of previous mind sets, I'm saying mind sets and perceptions, there are emerging concerns now about this is a big modern sophisticated building and it is modern and sophisticated to some extent and I don't have the maintenance workforce.

We put one school-trained, highly-trained person that Greg works - we put him through an elaborate - he or she - through elaborate training to go out and be 'the' facilities manager. There will be no new facility that will not have one of these highly-trained people.

So we know we have knowledge here. The issue is all of the maintenance tail that would go along with it. And it has been once - it's currently employed in the current old embassy complex.

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There is a feeling that more manpower, person power is needed. We think that is counter to logic. We think it ought to be going in the other direction or at least staying even because it just doesn't compute with where we were headed. So I'm just interested in your ideas about this. It is a little problem I'm working right now, and how do you see it from the industry point of view?

MR. MERLO: I don't know - I can talk for my experience and I can give an idea. In the Cuba project, I don't know if (inaudible) site or not but it's checked by computer, by satellite because they have a computer and you can attach the computer to the satellite and the company will pay you what is normal, what is legal, whatever.

GEN. WILLIAMS: I don't know where you - but you just answered the ultimate question. That is why I don't want us to illuminate this too far because there is a school out there would say you don't need anybody. You can remote this back to the United States.

And that is kind of where you're headed but I don't want to exactly go there yet, but I'm interested in how do you see this issue of a requirement because the

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building is more sophisticated, you know, you have got a huge mechanical room. The floors are clean enough to eat from, and there is a little corner there, as most of you know, with a desk and a computer screen and et cetera. And that's what you use to do your job with.

What I am concerned about is the notion, help me work through the idea of more people versus none or whatever. This is what I want to hear you talk to.

MR. ZINGESER: I was just going to say, obviously, the facts will speak for themselves. You'll present the facts. You've got a new building. You've got a facilities manager. You've got a new system. You've got the engineering software necessary to run the system. The system requires whatever it requires. If that's one person, it's one person.

The difficult thing, I guess, is you don't have a technical problem you have a human resources, internal problem, if you will, in terms of what to do with the people that you have or that are out there. I'm not sure that - I can't speak for the rest of this panel. Maybe Ida is more - since she's an owner - but from a technical point of view

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the facts will tell the story. And then beyond that I don't know what else to say. It is what it is.

MR. MOUNT: Well, one of the problems we're faced with overseas is that what would be one job in the United States, because of the skill mix and the level of competency they divide it up into several people.

And so your facts on the ground may be translated differently at a particular post so that it isn't one person who handles the whole system but the tradition, the culture has been to kind of divide it up.

MR. ZINGESER: That was my point. To me it's not a technical matter; it's a human resource issue.

GEN. WILLIAMS: Jeff.

MR. BEARD: It's interesting. Tod brought up earlier the three-legged stool of cost, schedule and quality is really, when you're talking about the life cycle four-legged stool of cost, schedule, quality and management. When we talk about quality it's not a single absolute but it's a range of possibilities for each piece of material, each system.

And I know that some of the staff here at the

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State Department has looked at the ASDM standard on whole building functionality and serviceability, functionality being over on the programming side, serviceability being able to match that in operation on how we were programed in performance and seeing the scales there.

Now, talking about those scales if you were specifying in performance terms for long-term performance and reliability, and the scales run from one to nine, you would put your HVAC systems with redundancy and maybe on a scale seven, eight or nine.

Your finishes, on the other hand, if you wanted really, really high quality but super high maintainability they might be in the eight and nine range. But if just wanted good, solid materials that would give you reliability and last for 20 years without too much even maintenance you might be down at a five scale.

So you have got to think through each one of those systems, each one of those areas and say what is quality to me? What am I really performance specifying for and use those scales to set up your measurement standards, your metric standards, and then decide going forward.

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Because you'll have to defend this against the AIA if you go one direction, against Congress if you go in another direction because if you wanted quality nines all the way across the scale Congress is going to say you can't afford it.

GEN. WILLIAMS: That's - well, the whole point if you - I wouldn't say quality but what I'm getting at is if you are increasing the draw, the claiming for dollars across the board, you have got something wrong with your problem because you, number one, haven't thought through balance and you haven't made any relationship between functions that take place. So Ida, what's the Boeing perspective on this? Ida?

MS. BROOKER: It's hard -

GEN. WILLIAMS: Increasing numbers is what I'm talking about.

MS. BROOKER: Increasing numbers for - well, the problem we have is not a technical issue. It's a people issue. And those three guys that are carrying around the wrenches are not trained and expert enough to manage the new systems. So what we have is a retraining scenario.

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GEN. WILLIAMS: Skill sets.

MS. BROOKER: Skill sets. But it's a lot different doing it when you have 35,000 employees than when you have seven. And the idea of, oh, you have right now three people in your particular embassy and you need one but none of those three are the one. What do you do?

I mean, that's a philosophical discussion. It is not a technical or a skill set discussion. And therein lies the problem. When you have lots and lots and lots of people there is a possibility you can find another job for them and then we do that. But the fact going back to what Joel said is that it's a different issue. It's do you lay off those three and hire somebody different. And politically, you can't always do that.

GEN. WILLIAMS: But what I am saying is that do you keep the three and ask for two more? That's my point. See that's - I'm trying to leave you with the three and help you deal with the skill set but my problem right now is trying to justify five.

MS. BROOKER: And you can't justify five in the same function so maybe you use the three in the landscaping

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and replace it with one in the, you know, but you've got to find them a new job because - but again that's not always easy. I mean, what was the earlier comment? Once hired always - you know, you're here forever kind of a philosophy.

And there is some of that, especially on foreign soil where can you let those people go? And, I mean, who are they related to? How long have they been there? I mean, you've got different issues but no, we don't add those five, but we do find new jobs for the three, when at all possible.

Of course when you are laying off 35,000 at a whack it's a little hard to do that, but downsizing is different than redistributing according to skill. So we do try to redistribute skill categories before we lay off. I mean, the first thing we do is to try find another job but we don't just add on tasks to take care of the new content.

GEN. WILLIAMS: But what I am hearing is that it is more of a management issue. It's a user management issue than it is -

MR. READY: Well, we were talking a little bit

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earlier about intelligent systems and the new systems probably having diagnostic, internal diagnostic programs and various things that allow one or two people to monitor an entire plant and understanding the ability to open the book to see what the error code is and read as opposed to going out and ten, 20 years experience with a boiler and knowing that if you tap it this way or you turn it that way you get something to happen that's not documented.

I think that is a whole issue that has to be faced down early on from the time that you notify the local staff that there is going to be a new facility built and all of that.

I think there needs to at least be starting the process of evaluating and looking at who is going to fit with the new model and giving you time to hopefully retrain, place, counsel, whatever or make other provisions for some of those people that no longer fit into the new maintenance model, management model.

And I think that is just the reality. But I guess one other issue that I would point out somewhere somebody has to say how many minimum bodies do we have to have? It

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may be that 90 percent of the time you only need one guy to look at the error codes and go around and schedule third-party vendors and schedule to do the replacements for the normal filters and all that stuff.

And 90 percent of the time that may be a very small staff. It is that five or ten percent where if the function is going to be done in-house do you need three extra bodies to physically do whatever the procedures are?

If the answer comes back that that's the way it is going to be handled, either because it is not feasible to have a third-party vendor come in, or you just make a political decision that that's the way you're going to do it, then I think you have to make sure those people are then available.

If the procedure needs bodies and trained bodies, and if you don't have them then it's not going to get done, I mean, a good facility manager whatever, if he can't do it, he can't do it.

If you're going to require that then you have got to figure out what you are going to do with those people the rest of the time. And that is a management issue as well.

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I have found in situations where you had plenty of people and they weren't doing things all the time the reality was they didn't do the things they needed to do that they were required to be there for. They somehow blew it off all the time. And that's as big a danger in the new systems as not perhaps being prepared.

If you let these systems slide and you don't take care of the standard processes even the best HVAC system or the best filtering system for water or whatever will degrade very quickly and potentially become hazardous to the occupants of the building.

GEN. WILLIAMS: Let me just talk you through sort of what we do and see if this makes some type of sense. We try to notify - not try - we do give official notice at the commencement of construction to the affected posters, as we call them. That's the apparatus that manages our new embassy centers that the new building is coming, when it is coming and fortunately to date we have delivered when we said we were going to deliver.

We set in place under Terry's guidance a decommissioning of the old building, taking away the mind

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set that they're going to hang onto the guy with the three wrenches. They know that's going away. That's a very elaborate process that's led, because we either sell or dispose of the building to make certain there is no hanging onto that, because as I said, this has been a problem.

So it kind of sends a signal that if you are - if I'm one of the three walking around with the wrench turning the air conditioner on in the middle of the night that I'm going to have to learn how to deal with the new system that is coming.

Part of the contractor's responsibility and in his scope of work is to develop a set of deliverables, which would be an operational manual, and train the local staff.

So that is the kind of - and we have about two years to get all of that done, you know, to get your head straight and focus on the fact that it's a sea change; number two, decide who's going to fit where and whatever. So this is not like something that is sprung on you in 90 days or so.

And so what I am trying to sort of grapple with is to make certain that we have the proper traction with the

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position because what we have taken here is that at least through my experience and having been all over the map on buildings I can't make the connection to the fact that the numbers should grow.

In fact, I could easily make a good mathematical persuasion for going in the other direction but that's not what we're after. We're after just letting things be as they are and then you grow and then deal with that. And I just needed your feelings to see if you felt this was the right approach, whether I'm wrong, or whatever. Well, not me but OBO. Yes.

MS. BROOKER: The whole point of building the new facility is to be efficient and cost-effective. And the whole point of that being that it shouldn't take near the staff to run the new facility as it did to patch and piece together the old systems that you have been limping along with for years.

GEN. WILLIAMS: That's the logic.

MS. BROOKER: So with that said, the staff that is going to be affected the most going from the old facility to the new facility is the staff that maintained the old

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facility. I mean, that's just the way it is. And so of all the staff that one is affected the most because it's got a higher technological level and it has got fewer body requirements for it.

As part of the plan when you go into the planning of the new facility you look at the long-term maintenance and affordability, and that is part of the affordability picture is that that is part of the plan. So the fact is that the plan is to reduce that number. I mean, there shouldn't be argument, however, then you go to the political side.

MR. HOCHULI: Ida, I have a question for you. On the Boeing facilities do you maintain all of them yourself or is it a combination of in-house and commercially sourced?

MS. BROOKER: It is a combination. We do have - the things that we outsource are the testing and inspection of our fire alarm systems, those kinds of things, because we want them to be certified by an outside agency, that they interface with the fire departments, those kinds of things. But other than that, all the equipment and motors and

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production and cranes, all of that is done in-house.

GEN. WILLIAMS: Our Assistant Secretary of Management you've met before - I'm sorry, Undersecretary of Management Grant Green -

UNDERSECRETARY GREEN: Let me just again, you heard from Colin, you heard this earlier from Chuck. Let me just thank you again for the service that you do for us and congratulate you on the Gallup organization's results, too. Even though they say people process outcome the really important thing is what you contribute to Chuck and his people.

And the subject you're talking about is very topical because we just had one of about 16 yearly senior reviews this morning with our Africa bureau and this question comes up. When the Assistant Secretary for African Affairs says I need X number of more people because in Africa particularly, as all of you know, we're building the lion's share of our new embassies.

And what they are saying is because we now are going from an old building to a new building, size aside and footprint aside, I need more people. So that is what Chuck

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is trying to get at. Is it really just your experience when you build a new building you need more people or fewer people to keep the thing up and running?

Now, some of this has to do with the fact we're going from an in-town location many times to an outside location and they need more drivers. And because you've got more real estate they need folks to cut the lawn. But I think what Chuck is getting at is do you need more people to carry wrenches or to punch buttons? So this is an issue that is coming up in all of these reviews that we have with our regional folks.

Thank you very much. You don't know how helpful this is. I know that Chuck has told you but when our credibility with the Congress I called it the three-legged milking stool, and one is the long-range building plan, the other is the standard embassy design, and the third is you folks. You give us a heck of a lot of credibility with Congress, which in the end is important.

That's why Chuck is going to be able to hopefully build nine or ten of these suckers a year. By '05 maybe we'll get to that 14 or 15. So thank you very much.

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GEN. WILLIAMS: Thank you for coming. Okay. Back to the - who was talking? I cut somebody off. Joel was speaking.

MR. ZINGESER: I was going to suggest that part of the issue may be that in the old days the word came out something was going to happen and maybe it didn't happen. And now it does happen.

And maybe the thing to do is to accompany that with some data from where it has happened what it has meant in terms of the mix of employees, the spread, the numbers, the change of skill sets, because I suspect you're starting to be able to develop some data of how that makes this change.

Maybe the numbers haven't changed as much as they should for reasons that are beyond your control but I would suspect that over time, and it won't take a long time, because the program's pace is very aggressive, you will be able to point to real data in terms of who's doing what, where, and how. And the reality that this is coming they'll pay attention earlier.

GEN. WILLIAMS: That's excellent because that is

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the way I sort of walked away from the review that Grant made reference to is that - and I must say and I've said up front, the Secretary, the deputy and all the vetting parties that I've had contact with, Congress and OMB, they are right where you are.

But what gives us traction when we are trying to fend off an issue, particularly in a political environment is, Grant puts it on the three-legged stool, I call it traction. It has to be more than just one person believing this. In spite of 38 years of doing this, you still have to have some company along.

And the fact that you generally endorse the notion that just plain logic without having any facts or data at all, I mean, we can't build new and modern facilities that are going to be more of a drag on maintenance than what we had before. I mean, I don't even need any discussion about that.

In some of these places we're taking them out of - some of you have traveled around and visited with me, we're going from seven separate locations where you have had to maintain seven separate buildings. And you're going to one

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modern facility now that all of a sudden you're going to need more people. So I think that's what we were trying to break in and work away. Yes, Robin.

MS. OLSEN: I was just going to say that maybe as you're gathering data or you start to implement with less people or whatever training it sounds like a partially political issue. So you might have to have like an evaluation team, traveling trainers go around to evaluate what's going on, have a political person with you so you can see what's really happening then come back and say, oh, it really makes sense and we need to take the numbers down. I can see. Then you'll have political eyes as well.

GEN. WILLIAMS: But you see, the size of the number and the number supported in my eye, coming out of my eyes means one thing. And the size of the number supported coming out of another set of eyes means something else.

MS. OLSEN: Yes, but you're still going to have to prove it.

GEN. WILLIAMS: That's what I'm doing. I hope that they're doing their side as well. So I think I have enough. David.

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MR. READY: Well, it seems to me that since the contractor is responsible for supplying the training and, in effect, developing the first shot at how this facility is going to be run from a maintenance and management point of view, because you have laid that responsibility on them I would think the first order of business that contractor would do is lay out a management process and a plan which would include a staffing component.

And given the contractor's experience with other buildings and the knowledge to prepare the training and the plan, the contractor would be in a perfect position to say, from an impartial basis, this is a two-man shop.

And the surrounding grounds under normal maintenance processes if this were a privately-managed, third-party campus would be a three-man group or would be this kind of profile for equipment, manpower, scheduling and let the contractor give you that and give you that basic profile and then work off of that.

If there are reasons why, at the local level, particular approaches to management - to maintenance would not work or might not be acceptable, cultural whatever,

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then they can be adjusted. But the contractor becomes - gives you the baseline and then see what that does to you in terms of moving toward.

It seems that would be at least one way to go about having an independent evaluation of the staffing component without having to get into personalities or having to get into the politics of it.

MR. BEARD: I think that's a really intriguing idea. The contractors, at least historically, have not been the real operators. There were some metrics from BOMA, ILA, ULI and folks like that who operate facilities, IFMA. They had some sort of metrics and coming out of those commercial and institutional sources would be the ones that I would try to find and use those as a base line.

GEN. WILLIAMS: Excellent.

MR. READY: I don't know where the contractors - my guess is that contractors are going to third-party contract out this requirement to take responsibility. He's not going to - he is not in the training business generally so -

GEN. WILLIAMS: He'll reach out.

MR. READY: Yes.

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GEN. WILLIAMS: I think the idea of independently having the contractor think about that and what was also an interesting idea over here, I think, that Joel brought up and that is that there is no empirical data in anybody's hands right now so it is all speculation and whatever.

So for starters, you need to be right where logic is and that is it would just suggest to anyone who has been around this for awhile that that's not the direction to go.

What you need to be doing is getting it right whether it is one, two or whatever it is going forward and then the number of people you happen to have on staff becomes sort of another issue that you have got to deal with that requires HR and a bunch of other things in terms of retraining.

It has a lot to do with what we talked about this morning and sometimes in government, and even in the private sector, that you don't spend enough time thinking about retraining and getting your human side of the business straight. All of a sudden you have got something and now it is what do you do with it.

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And in the private sector I know you don't deal with growth in numbers, you deal with whether or not the person is qualified, in fact, to do what they must do.

And as I have said many times, when you have got a lot of pressure on this there is a flip to this and that is I can privatize it and get it to roll that way, and that eliminates a lot of these issues.

But that's kind of an extreme route to take in view of what Ida spoke so eloquently to and that is you have this staff. It is a host nation staff. It's highly interlaced with politics and host nation stuff, so you have to be very careful with that.

So what I'm trying to do is to come out of this for starters now that we're bringing all of these - can you imagine worrying about this now and I can remember two and a half years ago I was worried about how could I get from one building a year for the last 75 years to now I'm at eight.

Now, I'm delivering eight and going to ten. And I got this big gigantic issue now whether I need two wrench turners or eight of them. So it is all in the - you'll clean that up when you -

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MR. ZINGESER: Everything's relative, huh?

GEN. WILLIAMS: Everything is relative. Okay.

Yes, Derish.

MR. WOLFF: If it's any satisfaction, and I won't name the name, but the largest oil company has now let that project out three times for bid on Africa to find out how to maintain their facilities. They are having really a difficult time. And so it is a major issue because they applied metrics that they were using, say, in Europe, South America and Africa was sort of surprising that they can't get bids.

And when we raised this issue, you're ahead of me as usual, when we raised this issue on staff training I was going to step in but the conversation was so animated I didn't, but the biggest concern we have now is overseas. What we're finding is that overseas staff have grown to become a much more important component than they ever were before, professionally as well as technically.

And we have had to change our training program. Our training program always assumed that either we'd be dealing with U.S. or third-country nationals. We never

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thought that we would have the bulk of our staff would be sitting in a foreign country spending their whole life in what is their own country.

We're trying to go through a very painful program to develop how to mentor and how to train and how to treat these as an asset not just as someone we hired. And it sounds like the same issue you have. And one of the things we're finding is that if we apply the exact same training program we talked about in the U.S. to them, treating them more and more like U.S. employees, that they are an incredible source of value to the company, and especially moving them from country to country and especially in Africa and in Asia.

So more and more instead of, I think, someone coming out from another country we're tending to move Africans or Asians to each other's country. We had done it earlier in South America. And you have to, of course, train people and what we're finding out is that the average person working for us, say in Asia, is actually technically more sophisticated, and I think in Africa too, especially in West Africa, than we would get in the U.S. because we're getting

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a higher cut of people.

The people who go to work for an embassy or the people who go to work for us in Nigeria say starting off as surveyors, or starting off even as drivers are of - I don't want to use the word - but like of higher average intelligence than we're likely to get in the U.S. simply because we're not competing with as many.

So you may find that you have a huge source of people but no one has been training them for other use. No one has been moving them to say, Ivory Coast, for a year or two. You may be shocked at the results. But I just throw that out there.

GEN. WILLIAMS: That's exactly what the issue is to be very honest about it. Yeah, David.

MR. READY: I would like to sort of address, you know, we were talking about the quality measurement and we got off on the staffing, and one of the things that occurs to me - I have evaluated and dealt with pricing and appraising buildings where they were functionally both Class A buildings.

Everything was wonderful and new but the

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difference in the rentability and the competition for that space, and therefore value to the owner, was the service that was provided inside the building for the tenants. And that sort of goes beyond the basic maintenance issue.

Some owners, some operators are much more geared to being able to address the needs of the tenants quicker, or in a more friendly way to either find the problems or provide additional services in terms of buildout or modifications and changing in a minor way the work environment that tenant is in in order to enhance their experience.

I think when you get into questions of quality, questions of long-term value we can go back to those other earlier discussions about renting and sharing cost and all of those things. Maybe this is an area where you may want to look at taking some of the traditional services that maybe were provided in the older buildings just because you had to and look at some of the attitudes and the service that those employees were providing and maybe shifting them into a different, more concierge-type of service and quality in your new space to address the kinds of needs that your

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new users are going to have at a campus environment in an integrated building environment.

And perhaps look at just changing their outlook on how they're dealing with the individual tenants that you are responsible for in that space.

GEN. WILLIAMS: I am going to ask Greg to reach out as he sees fit to each of you as we grapple with this whole idea of maintenance going forward. Obviously, I think as long as we can stop the stampede coming out of the door for any additional and then start thinking about how we can cultivate and work with what we have is really where our center ought to be in terms of thinking.

So I think you have given me enough to solidify the stampede, and I think you heard Grant's comments and know that he is right there with us. What we need to do now, having said that, is to get smart and figure out how best to cultivate the right skill set, either in-house and if we do it in-house that presents a set of circumstances for us that Ida and others have talked to. If you only need two what do you do with the third person, et cetera. Then we'll just have to work from there.

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And we always have the extreme side of it and that is contracting it out. And that presents also another set of issues for us. But I think you have given us enough to move along somewhat. And we will come back, probably at our next meeting, since this is kind of a hot topic and toss this around a little bit more. And by that time we will have had a little bit more experience with it.

Okay. We'll move ahead now to another area that has created some issues for us. Our existing buildings - who put the code issue on the table, which one of staff?

MR. TOUSSAINT: That would have been Bill.

GEN. WILLIAMS: Do you want to speak to it, Joe?

MR. TOUSSAINT: Certainly. Number six explains what we encounter typically in our buildings. And this would apply to our renovation projects because the new buildings are always in compliance with the U.S. Codes.

Security is the highest priority. However, we also run into other issues that we have to contend with, that we need to contend with from a professional standpoint.

ADA, regarding the handicapped access, sprinkler systems, if we're doing a renovation on one part of a

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building and that building is adjacent to another part of the building that doesn't have a sprinkler system, for instance, where do we stop?

Do we apply the same standards as in the existing building that we're not touching, to the new building that we're touching? You see the dilemma here. And the people that we are hiring to design this very often are U.S. contractors. So we would be interested in knowing how you grapple with that.

Ultimately, Gen. Williams is the Code authority. So we may end up presenting a decision for Gen. Williams to sign that we're quite uncomfortable with actually, signing waivers and those kinds of things. But how do you do that and what has your experience been in applying sort of a commonsense approach to this? The reality is we have got so much money to do a certain upgrade. The scope may be identified in a general sense but once you get into it you start to uncover -

MR. ZINGESER: There are a couple of things you can look at, if you haven't already. The State of Maryland, for example, has developed a rehab code and the International

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Code has an existing buildings code.

The theory behind the existing buildings codes and regulatory process is really based on the precept that the authority having jurisdiction, which is you guys and Gen. Williams, really needs to look at the building from a practical point of view in terms of its intended use and occupancy.

In this case you are not changing use, presumably, but looking at the existing building in the context of what makes sense. In the commercial market it would be what makes sense which would still allow the building to be rehabbed so that it didn't become vacant and then a bigger problem for the community that it is in.

And historic buildings, of course, have always been an issue because they, in fact, have other problems in trying to maintain that historicity. But without giving a dissertation those are some resources. They all relate to the concepts of smart growth and how to reinvest in the existing buildings of the community, how to encourage rehab and basically are founded in the notions of trade-offs.

For example, if you have a stair that is too

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narrow and you only have one means of egress but the use wouldn't require sprinklers. If you sprinkler the building instead now you are doing something to offset that deficiency and so on.

So there's a school of thought and there are people who have focused their career on trying to help resolve those kinds of issues. I don't know if that's news to you or helpful but -

MR. TOUSSAINT: That's very good.

GEN. WILLIAMS: Yes.

MS. OLSEN: Wouldn't there be some kind of grandfather type clause, special clauses for historical type buildings?

MR. TOUSSAINT: These are, in many respects, they're not historical. They're just buildings that maybe comply with the local code but wouldn't comply with ours. And so that is the - I think anything we can get that would give more of a rational base for us.

MR. ZINGESER: Yeah, that is what I'm assuming. You're trying to do something that is rational, that shows a good intent, both locally to the host country and also to

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the safety and to do the best you can for our people in the buildings.

MR. READY: I would certainly recommend the Maryland rehab code as a starting kind of resource to evaluate because it really is - I would kind of ask the question initially, you know, what if you're going to do security upgrades, I mean, safety and security go hand in hand in my way of thinking. It's kind of ludicrous to have a secure building that becomes unsafe the minute you have to rely on those security issues.

So I would think your first priority would be to look at those code deficiencies which have material impact on the security and safety of the building when those security issues are called on. If the building is put under pressure, it may not be a big deal in normal usage for the electrical system to be old but if suddenly the building is put under some kind of pressure, either from impact or from even adjacent explosions or whatever, is that electrical system going to become unsafe, a potential fire issue, or a failure that is compromising your security issues?

I think you have to set those priorities up though

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before you go looking at the nicer side of rehab. I don't know what condition those various buildings subsystems would be in or where there would be potential for compromise but I think that is one place to start

(Whereupon, Mr. Thornton entered the room.)

GEN. WILLIAMS: And by the way -

MR. THORNTON: Sorry I'm late.

GEN. WILLIAMS: Yeah. Let me present -

MR. ZINGESER: He's buying dinner, right?

GEN. WILLIAMS: Yeah, he's buying dinner next time.

Charlie Thornton, chairman, CEO et al of the Thornton-Tomasetti Apparatus. I've know Charlie for a few years, and he is very, very experienced and steeped in this business. And we're delighted that he is subbing for our good friend Mr. Bernstein. So I know that many around the table know him and he needs no further introduction. But I thought I would prelim that before you.

MR. THORNTON: Thank you, Chuck. I just wanted to make a couple of observations. When we get involved in projects overseas we usually do a little historical perspective of what code had been in effect in that country

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and why certain provisions are in the French codes or the British codes or the Australian or New Zealand codes. And codes are like specifications; they tend to be an accumulation of experiences. And if you find that there has been a catastrophic event in a country, a fire or something, you'll find that the codes kind of evolve kind of in very strange ways.

Some of the European codes are kind of written with vested interest in mind. Some of the New York City code, if you have ever studied it, it's a very exclusionary code. If you're in and you are approved you're home and if you're from outside, you'll never get in.

And I'm sure this works in all societies. And so when we do either new or renovations we usually go in and we do an evaluation of why the French code, the British code or the Malaysian code or whatever, but why they have what they have.

And then we kind of develop a matrix and show that the U.S. code is better in these areas, the British code is better in these area, the Australian code is better in these areas. And then you kind of can make a better kind of

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educated guess.

And nothing is right, and if you try to convert a building to just the U.S. code sometimes it's a fossil, I mean, especially when it comes to seismic retrofits and some of those kinds of things.

So since you're the commissioner, you are the final - I think if you take a logical, intelligent, rational approach and you study why the buildings you're looking at have what they have, assuming that this is in a fairly modern - I'm not talking about developed countries. You never know what you're going to find there.

But it is just kind of interesting and when we worked on the tall buildings in Malaysia we designed those buildings for fire and egress to the Hong Kong, the British and the U.S. codes. It was a combination.

GEN. WILLIAMS: All three.

MR. THORNTON: Yeah. Because Malaysia was basically dominated by the British codes, which have some problems. The Chinese are very much in the financial backing role and they tend to be more conservative codes or they think they're more conservative. And then being a

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little prejudiced I think the U.S. codes happen to be the best.

So we took the client to Hong Kong, to London and to Chicago and New York and a couple of other cities and showed them various buildings. So that may not relate exactly on a renovation but I think the historical perspective of why the thing you have which you're trying to do something with, try to figure out why they did it that way and then kind of synthesize it.

GEN. WILLIAMS: That is very useful for our thinking.

MR. THORNTON: Because you may not be able to make it 100 percent right unless you tear it down and do a new one and then you can reduce manpower.

GEN. WILLIAMS: That's right. Reduce manpower. Yes.

MR. STABLES: General, there might be a precedent set with the World Bank funding some U.S. projects like in Mexico that the public buildings, such as hotels, have to comply to the U.S. standards and fire codes so that you don't buy a local manufactured metal door and it doesn't

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function when it reaches a certain temperature. That's one of the incidents he's talking about that came out of the change in codes.

GEN. WILLIAMS: Very interesting. Thank you. Yes, Ida.

MS. BROOKER: You have to give some other considerations as well is not only do you upgrade to U.S. codes but how do you do that? And one of the things you need to do is a lot of these places you don't have to build to U.S. code but generally the U.S. code is more conservative than the local codes. And for safety, health issues that generally they're much more conservative so you want to make sure egress and those kinds of things are to U.S. codes because you're looking at the safety of your own personnel.

But the fact is that if you're going to upgrade then how are you going to upgrade? And are you going to upgrade in one fell swoop or are you're going to try to plan it over time? And the answer to that is not an easy answer either. If you do it all at once it is less costly because you plan it all at once but it generally destroys the

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workflow.

So, you know, the fact is that you may need to prioritize the issues and then implement a plan that maybe you do it over a three-year period or something like that where you have, you know, a Winchester house that you just keep going and going and going until you get it done but the fact is that you can still work around an embassy becomes - continues to be functional during that time.

But you need to evaluate whether or not you want to follow all the U.S. codes. I know that we have just bought a facility in Australia and we have got some hazardous issues there. And there is a big debate on whether or not we maintain Australian hazardous codes or we go to U.S. hazardous codes.

Now, we are a commercial company and in order to implement U.S. codes it's going to cost a lot of money. And we're going to do it anyway because of life safety issues. And we know that the '50s, the U.S. 1950s regulations that they have got in place in Australia aren't going to be there forever. We know they're going to come up to speed with what the rest of the industrial nations are doing. So in

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the long run we felt this is the time to do that.

But again, do you need to, do you want to, do you have to are all issues that you need to evaluate when you start doing these because seismic upgrades for some of these buildings is a huge, huge effort. It is disruptive. It's costly. If it's an area that doesn't have a whole lot of earthquakes you might want to figure out whether or not you really need to do the U.S. code, I mean, does it make sense? So there's no simple answer but life safety is first. And that's what you take into consideration and then you go from there.

GEN. WILLIAMS: Any other comments on this one?

MR. BEARD: General, just a quick added note. There is a draft performance-based code, as you know, that is out for trial use and comment. No jurisdiction has adopted it in the U.S. as of yet. The Australians have a performance-based building code.

GEN. WILLIAMS: Who wrote it, Jeff?

MR. BEARD: A composite of the three code bodies. ICVO(phonetic) is the primary custodian.

MR. ZINGESER: There really is no more three.

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There is one now. Of course, now there's the URBC, NFPA so now that's back to two but that's a different one.

MR. BEARD: Okay. There certainly are factions but the NFPA, that's the problem. There's competing performance-based in the U.S. now, but I think it does have have -

MR. ZINGESER: The performance-based code is an interesting document; you ought to be familiar with it in terms of its content and so on. I think again from what I gather your situation and your goal is the kind of incremental thinking that is laid out in the existing building type codes is probably more applicable where you might be able to adapt it and adapt it to your own needs as it relates to your performance goals in the buildings and your political goals in the communities that you're operating in.

Gen. Williams: That's what we're after. Any other dialogue on codes? Moving right along we want to now move a little bit to sort of a management issue we have. But obviously, with your experience and background on these matters we think you can help us some. We started talking a

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little bit about this last time and we didn't get too far into it because we were kind of discussing what this evaluative process should look like.

And what we are talking about is referred to by many names, post-occupancy evaluations, evaluating the usability of the building once it's occupied. We have a little bit of an issue there as to exactly how to frame our program, how quickly should we send the post-evaluation team in to do the evaluation, to garner the kind of feedback we would need for lessons learned and to make tweakings and fixes to the program going forward, sort of the makeup of the team, and even putting on the table today whether this should be a combination of private sector and in-house or whether it should be just done independently by private sector apparatus.

So I'm kind of open for the process, open to discuss what our team makeup should look like, a little bit about the protocol in terms of when such a team should be dispatched and sent to the most recent location that we've built, what kind of products they should bring back and then sort of what the makeup should be. Yes, Charlie.

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MR. THORNTON: This is in a situation where you have just built, either built a new building, you have moved in or you've renovated the building and you've moved in --

GEN. WILLIAMS: Right.

MR. THORNTON: And now -

GEN. WILLIAMS: We want to get some intelligence. I mean, how the users are faring.

MR. THORNTON: Like did they say they needed room for 300 people and there's only eight people there?

GEN. WILLIAMS: That's correct. I would love to get that situation. You got it. That's the type of thing that we're looking for or some functionality piece that is not working like it should, something of that nature.

MR. READY: I think we have talked about this before. I think you have to go back to the planning and start from a base that says what is it that we thought we were trying to accomplish and have that as a baseline.

And then somewhere along the line some of the first questions I think you have got to establish are are the users still in that mind set with what the planning process thought they were going to be in.

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And if you find that along the way the user requirements and the user attitude about this new facility are significantly different from your planning process that locked you in early on in the project to a certain set of solutions and a certain allocation of space and such, I think you're going to have a very difficult time making any other data about that building work for you other than to raise issues about how you got from the start to the finish.

So I think you have got to go into an evaluation process with that baseline and along with that I think you have to make a distinction between the attitude of the user as they get the space and as they start their new activity level which may be significantly different from their previous level because they have got more space, they've got different configurations and they're operating in a different manner. They were downtown before and now they're out in the suburbs and that impacts on their whole attitude about their actions and the physical acceptability of the space to address what they said their criteria was.

And it's a two- or three- or four-pronged process, and those may be different people and different groups of

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people that ask those questions, and it helps you get a handle on them.

Some of those, as far as integrating the planning process are, I think, going to have to be enhanced. But some of the attitudes and some of the psychology that goes into evaluating the tenants you may, I think, want to have an independent third-party analysis in order to be able to really identify what your responses are and not have them sort of flavored by your staff that regardless of best intentions are always going to have a certain bias because they were involved in the process all the way through.

GEN. WILLIAMS: Thanks, David. Are there other views on this matter?

MS. BROOKER: I seem to have a lot to say today and a failing voice. It's a very interesting concept because my personal opinion is I think you should do it in-house. And the reason I think you should do it in-house is because usually an outside entity will use a questionnaire. The worst of all worlds is getting a questionnaire filled out that doesn't answer the questions the way you thought you wrote them.

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I think personal interviews is really part of that process to get an understanding of what it is that, you know, you have got two issues here. One, is your design the right design for the functionality of your embassy process? And number two, does what you built meet the needs of the occupants of that facility?

So I think those are two different but related issues. You're going to want to know are they efficient? Are they comfortable? Do they work? Does the work flow properly within the building? Do the workgroups work together well? And those kind of questions don't get answered with questionnaires. They get answered with one-on-one dialogue with the people that are in the buildings.

I think that you need to do that six months after the building is occupied and that you need to do it periodically after that. The very first meeting here I said be careful what you ask because in our case, regardless of the fact that they bought a Ford, they wanted that limousine. And regardless of the fact that they knew they had paid for the Ford, and they knew they were going to get the Ford, they still wanted the limousine.

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So you walk into an embassy somewhere and their crystal chandeliers aren't there and their mahogany accouterments aren't there.

GEN. WILLIAMS: Ida, let me tell you, you've got it exactly.

MR. ZINGESER: And there's no driver for the limousine.

MS. BROOKER: Exactly. So how well does this embassy meet their needs? Well, I have got news for you, they're not going to like it. So the fact is that if you bring in a third party they're not going to understand that dynamic. So you are not looking for the comparison between their expectations and the deliverable product. You're looking for the functionality and the reliability of the delivered product. Big difference. And I think that only a personal evaluation, one-on-one, can get you that information.

GEN. WILLIAMS: Thank you.

Mr. RITTENHOUSE: It also goes back to what we said before about this program or purpose, the validation. A person has to go through up front, as everyone was saying

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the same thing. You've got to get out what you expect and it doesn't have anything to do with people from within state it, the people who were there when you had that validation we spoke of earlier because that is what everyone said is on the table to deliver.

And unless you - you've got to evaluate against what that group said they were going to deliver not just what you wrote down on paper, no chandeliers, no chauffeurs, et cetera, but the people who were in there knowing that discussion intimately and be able to validate it, so that they can filter.

They might say one thing but they were there in the room when those decisions were made to go this route so when someone says I wanted a chauffeur, well, maybe that person wasn't in the room when no chauffeurs was the decision being made.

So whoever does that last program validation, as we discussed earlier this morning, should be involved six months later and perhaps a year later as well to see if everything, mechanical equipment, continues to function as they said it would, et cetera, et cetera.

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GEN. WILLIAMS: Excellent. Joel.

MR. ZINGESER: I was just going to say that in this case there's also another interesting facet to what you're doing because a traditional owner, even one that has multiple buildings, would go out and want to know how did we do relative to that building?

And there's two things you learn. You learn how to make it better so that, in fact, it operates better, the building itself, and also data for your next building.

But in this case you have got the third facet and that is the standard design. And albeit, we're trying in the program to meet the specific needs of the specific embassy in the specific country and so forth, but we are taking a bit of a cookie cutter approach in order to facilitate the program and get the products in place.

And so there is that third element is how well is the model Ford, if I can use that, that we basically are trying to work on working. So that to me that's the long pole in the tent. That is the real key part.

GEN. WILLIAMS: And out of what everyone is saying, it all comes together to be what can we take away? I like

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the idea of this six-month to a year snapshot because Terry and Gay and I have been toying with this because, quite frankly, I have been a little not firm in my own mind as to when is the best time to go.

And then I do know that we want to have sort of all the work done on the building. We don't want to do this in piecemeal. We want to wait until everything is done and then go out. Of course, this issue of in versus out, I think you made a pretty compelling case that it would put a private-sector entity at a disadvantage to walk up and ask the management officer at a certain embassy how are things going.

And I think you'll get a brand-new list of things that might need to be done. And it gets back to this program discipline and evaluation that we talked about.

MR. READY: General, I really kind of dispute the in-house. And I really would. I understand the argument but most of us are not well-trained to do that interview and to get to the issues. And one of the things you are doing is you're talking about going to people and asking them and trying to get to the essence of whatever their gripe is or

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whatever their issue is.

I think it is quite possible to pre-prime their understanding of the issue about what the compromises were, what the initial agreements were, all of that, before they go into an evaluation. But I think sometimes when staffs do their own evaluation, when they're involved in this kind of thing, they are not really trained to get to the conversation that needs to be gotten to.

And I think that with the third party there is hope, there is the possibility that the party being interviewed will open up because they don't feel threatened by whatever politics or whatever power issues might have gone on during the negotiations for the space, or they may feel that they can - that this is a venue to really get an issue up the chain properly.

And so you have the opportunity to utilize all the dynamics to get a conversation that you really need to hear. Now, what is done with that evaluation, what the process is after those interviews take place, and I agree interviews versus questionnaires is the way to go. How do you boil that down to what, in essence, people were trying to say to

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you is a different - is another dynamic and whether that third party can do that or whether you then have to bring your in-house team and your consultant back together to write the final report, which is probably the way that would be done.

But I don't know that having a total in-house process is going to get you the kind of feedback that you need to decide whether you really have a good solution or whether you have worked out all the solutions that need to take place.

GEN. WILLIAMS: Thank you. I put this on the table because I was reading no opposition to that. Remember, I started off with the premise of being not settled yet as to how and what mix and how it should be. So that's interesting. We have a pro and a con, and it shows that the board is still not stacked for those who are taking external notes. Okay, Charlie, go ahead.

MR. THORNTON: Never having worked for the federal government except as a summer Corps of Engineers employee for a large corporation but kind of a medium-size engineering firm I suspect that if you took three of your

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most recent finished facilities that are, quote, similar and you studied the management style of whoever is in charge of it, okay, and if took the really motivated, cheerleading location where everybody is kept busy versus one that is less motivated, versus one that's the bottom of the barrel, you would get a completely different result in the attitude of the people that are using the building.

And I see it in the private sector. We can put people in some pretty substandard engineering offices because engineers only care about being busy and being excited and they don't really care what they are in. But when we have a slowdown and there is a malaise they hate everything.

And a good manager and a cheerleader can really get a team to perform. And I'm sure compared to a lot of private sector facilities your facilities are probably way up there. So I'm sure you have heard this before but you need cheerleading, you need a good coach.

GEN. WILLIAMS: Charlie is making a point and that is the reason we have not - as most of you know I don't deliberate quite this long on arriving at a decision. And

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we have been really after this for some time. And it is frustrating to Gay a little bit because we have had to go backwards and forward on some trips he had scheduled because I wanted to make certain that when we did do it it was done right because there's no point in just doing something.

And it's for the reasons you have just mentioned and others is that what we get if we don't frame the retrieving apparatus right can be convoluted and can send the wrong signal, because see, if we bring something back from location X and then we bring something different back from another location, and we can't validate any of these we end up not doing any tweaking at all. We've just got a whole bunch of stories.

What I'm looking for is that the kitchen unit in the standard design is too small and does not function, or I'm looking for the entryway into the ambassador's suite is a little dysfunctional because the door should've been over - I'm looking for that kind of stuff. I'm not looking for the whines, and all this type of thing because I know we're going to get those, that type of thing.

Or there is some issue related to something that

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is in one of the systems or something is kind of what I'm looking for. Then I can bring that back and connect to what Joel talked about. I can fix the standard design, fix the box.

We're not interested in talking about chandeliers and terra-cotta tile because that's not a part of the box. But if you don't manage this process right that's what you'll get. You'll get all of that stuff and you'll never deal with the types of things that I would consider to be systemic.

MR. THORNTON: The people that I find do a really good job in this kind of stuff are psychologists who are trained at marketing research and they do these focus groups. I mean, they really do get to the bottom. And this is mostly related to products but it can apply to anything.

These people, professional focus group sessions, really do bring out the truth about stuff. And it's amazing. And I couldn't do it. You have to understand human psychology. I think you need people with psychology backgrounds. But it gets - it usually - they have a way of getting to the bottom of it.

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MR. WOLFF: Charlie just stole my point. I would go to Toyota or Honda because they are addressing just these issues and very astutely because they have got this problem. They are not a Mercedes so if you ask the wrong question someone will say, why didn't you put a V-8 in the car or something. And they are very astute at finding out what's wrong.

Because otherwise what scares me is there is no - something that always bothers me in the construction industry is that there seems to be very little correlation in the medium run between facilities companies have and their performance and productivity. Delta was a much better airline when they were in the hangar. So again, if you talk to your employees they would be very happy with lovely new buildings and IBM declined during their golden age of construction.

So I have always been wondering if you use externalities what would it be like? But the auto companies have always, certainly the Japanese automakers have solved these problems somehow. I don't know how. I think they're doing just what Charlie said they're doing.

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MS. OLSEN: I was just going to say, I guess, the six months is a good amount of time to look at the functionality, how functional everything is, and whether it is functioning in the way that it should.

GEN. WILLIAMS: Six months.

MR. WILMER: Since we're going to have to make a decision relatively soon how to handle these one of the things that crossed my mind is when do you decide to put a cafeteria in a facility and how large should it be. And that gets to a lot of issues. You can size it right, based upon certain assumptions. So many people eating so many meals you have to serve, et cetera.

But going to Mr. Thornton's issue if you have a lousy chef and you then come back six months later to interview people and you ask the wrong question about the cafeteria, how is the cafeteria? They're going to say, lousy. So there wasn't anything wrong in the planning and design and the build-out of the cafeteria but there is something really wrong in the day-to-day management of it.

I was pleasantly surprised when I was at our embassy in Paris to find out we have a cafeteria in the

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basement of the place. And I thought who would have a cafeteria in the American Embassy when you're in Paris? Well, I found out it's very highly used because the food is good, reasonably cheap. It's convenient and the locale is very attractive, maybe a little too fancy for some of our tastes. But that works because you have the combination of things.

So I take all of your points that yes, I think you do need an in-house staff because I think the people who do go out and program and design it need to hear from their clients. They need to get some honest feedback. And I think they will get that. Trust me. Foreign service officers and others overseas that are locally engaged out there but they are pretty direct in terms of their opinions.

I think you also need some professional help in terms of how you develop these surveys and how do you filter out what you're hearing in terms of getting to the truth so you can see whether or not you really have an issue designing to scale a cafeteria or if you have a management issue. This relates of course to the standard embassy designs.

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So we have got all these complexities to deal with and I just wanted to thank you. I think you take an issue we've been struggling with and brought a lot of perspectives to it, all of which I think add something to how we need to evaluate it and move forward. So this has been helpful to me and I think - I see Gay nodding over there and it's not because he agrees with me because he doesn't always agree with me. I think he's agreeing with your contribution and I just want to say thank you.

MR. MOUNT: About the question of when we do it, because of the cyclical nature of much of the work of the embassy we have tended to want to go out a year or 18 months after the building is built because if you show up at the wrong time of year and they don't remember what it's like in the winter or they don't remember or they haven't experienced the high Visa season which is kind of like you want the car to go all the way around the block and maybe a little bit more.

But the idea may be doing it again later when there has been a full turnover, not only the American staff but some of the local staff, down the road maybe a little

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bit beyond the first evaluation. Rather than moving it up we might want to do two of them but a little bit further out into the life cycle of the building and when it has been put under some pressure, what David was talking about. If they have gone through something like an evacuation or civil disruption or something like that so the post has got a little age on it but it's still a new post and part of the standard design. Those are the types of things.

GEN. WILLIAMS: Yes.

MR. TOUSSAINT: Let me throw a wrench out in this one because the post-occupancy evaluations used to be back some years back on the execution side and what we found was that when we would go out the post would be - they get a questionnaire, they fill it out, they put time in and then the team would show up and they would be woefully disappointed to understand that they weren't getting anything out of this.

So it was sort of like you mean you don't have any money to fix the stove that should have been gas instead of electric? So there may be a component to this and I'm going to ask your experience on this if such teams there's a long-

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term and then there's an immediate result, immediate payback for the effort, sort of a reward for putting their time into improving the product, the long-term product for their colleagues.

And that is something that I don't know if we have encountered that recently because we haven't been doing it to the degree we did in the past but we found that was a little problem.

MR. BEARD: So one needs to answer the questions and then prioritize which ones are most -

MR. TOUSSAINT: Yeah. I think the facilitator is something we have never considered but you can see the balancing act between on the one hand the users and on the other hand some who have been involved and know the history of cafeterias can go on forever. But there are reasons why their scale, their size, programmatic reasons they are the size they are because they are within an embassy after all not the other way around.

So it takes a little bit of administrative effort perhaps on the embassy's part to use the facility in a sensible way. And what I am hearing from this is that you

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get a balance of this, you get some professional oversight and then go forward with it.

MR. BEARD: Well, as Robin said, fire the chef. A couple of examples from industry Sordoni Skanska did a major pharmaceutical project up in New York about three years ago. And they left - they had part of their fee set aside 18 months after the facility was up and operating. The questionnaire was sent out to the users and occupiers. Fortunately, Sordoni Skanska did okay. They got like an 82 or something on the scoring before receiving their fee, the rest of their fee.

The Navy is now embarking on some design-build commission contracts. And to the Navy, you know, commissioning to me is at the end of the project during the transitional period, maybe a year. These are for five years, design-build commissions, which is really a short-term design-build-operate kind of contract. And that's how they're trying to get to in-place quality.

MR. READY: It sounded to me like what you were describing in your process was the commissioning part of the building, fixing the things that were immediately - users

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identified as being problems, and having some monies so that there is an incentive for everybody to try and cooperate and get the problems identified.

It is a little different from the post-occupancy evaluation that I think most of us were thinking about. I guess I would point to the focus group as really being a major tool that someone different from the traditional send-out questionnaire and tend to have a one-on-one or maybe a very small group discussion.

The focus group process gets you a lot of answers to a lot of different pieces of the question, some of which might be physical disparities that need to be corrected or suggestions for improvements, but also can get you to management issues that are overriding any improvements or any solutions that you thought you were creating through physical design. And it is a managed process that really should be done by someone who understands that kind of thing.

GEN. WILLIAMS: Yes.

MR. WOLFF: Just two quickies along the same line. You might try to add to the questionnaire since you have

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people who have been to multiple missions, have them compare this facility with other facilities they have been in and that will give you an idea of the bias of the reviewer.

And the other thing if you can find externalities, in other words, if you have turnover, granted it's country sensitive also but if you look for externalities as to productivity, staff holidays, paid staff sick days and staff turnover, where they don't fight the reassignment.

I know there are other reasons for it but that might give you some - we don't do enough externalities in these occupancies. We always want to cover the occupants but give me a building everyone hates but there's no staff turnover, I mean, there are external guidelines that could be valuable to management.

GEN. WILLIAMS: Thank you so much for all the participation. It has been wonderful and it has been very interactive and it has been very helpful. As the Undersecretary mentioned, of course, you've heard him say this before, You heard the deputy say it, so we're just kind of repeating ourselves.

We are very thankful on behalf of the U.S.

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government and specifically the State Department for your dedication and stick-to-it-iveness because I've been on a lot of groups and so on and we've never had an empty chair. It's been filled by the principal or his or her designated representative. And that is a good point. It says once again that you are dedicated, you're really trying to help us and thus you help your country.

It goes without saying that our country is in a very difficult situation because the world is very complex and because of who we are and the extent and resolve we have we become sort of the easy target. I can tell you that this Secretary of State - don't know what you read, what you hear, but there is not a person that I have been encountering with through my almost 40 years of public service that is any more keen and insightful about the real deal.

He has his finger clearly on it, and knows exactly what is taking place. He is constantly trying to find ways to deal with what he calls his CEO side of the business. He's one of the first of his type that have tried to put a lot of emphasis on our business. He has made my job very

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easy not because we happened to know each other before or anything like this but because he truly believes in the whole notion of trying to manage.

For an example, the senior reviews that the Secretary made reference to where each one of us, the bureau of managers, that's like the business - in the private sector this relates to one of the business elements in an organization, international, U.S., and that kind of thing.

So as the bureaus would make their presentations this year was the first year that it was decided that the management side of house, first time in years, ever, would be the first presenters because it is his view that everything emanates from good and solid management. So this makes things very useful for us.

I'm going to recognize once again the visitors who have been here all day. Some had to depart but I don't want the session to end without recognizing your presence. You know the protocols on the meeting, you come and observe, et cetera. I would want to just recognize you once again and maybe you have a couple of words you might want to say before we depart. We don't want to prolong it but I do want

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to recognize the fact that you were here. Starting from the gentleman over here.

MR. FREDRICK: Dave Fredrick from the Facility Development Corporation. I appreciate the invite. I'll keep my mouth shut.

GEN. WILLIAMS: Thank you. Yes.

MR. MILES: Paul Miles, Morrison International Construction. I, too, appreciate being here and listening in. I think that this is something that everyone should get a chance to do that is in this business. Thank you.

GEN. WILLIAMS: Thank you very much. Yes.

MR. GAGEN: General, Bob Gagen, Kellogg Brown and Root. It's really been an interesting day for me. I'd like to look ahead a couple of weeks and suggest to you that at the Industry Day that you're going to have in June it would be very helpful for those of us who compete for the major projects if we have as much information as you can make available to us for your programs in the future because we have to do a lot of planning around those pursuits and programs. And that would help us and I think give you more competition for your projects.

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GEN. WILLIAMS: Thank you. Yes, sir.

MR. OKA: My name is Naoto Oka. I'm with the World Bank, managing headquarters facilities. Even though I slept a little bit I enjoyed the discussion a lot.

GEN. WILLIAMS: Thank you very much. You got the most important and I appreciate your honesty.

MR. FRIEDMAN: Warren Friedman with E&Y Real Estate Construction Group. I appreciate also being here. I woke him up a couple of times. I enjoyed the discussion. I just want to give a little input on this survey. We have done a lot of customer survey kind of things. I think if you design the questions for the types of answers then you can get them to write them, I think, as Derish mentioned about comparison to other posts that they've been at I think you can get a pretty good survey possibly, give you quantitative as well as qualitative answer. If you know what you're after that's the most important thing in designing an interview that way.

GEN. WILLIAMS: Yes, sir.

MR. WOOLFREY: Stu Woolfrey with Warner Construction Consultants. As always, it's a very thought-

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provoking session, and I really enjoyed it. I am very struck that in struggling with issues with both our private and public clients the similarities that are out there and I think this is an excellent opportunity to provide a little cross-pollination of ideas. Elements may be different but the issues are always the same, very similar. It's an excellent forum.

Gen. Williams: We appreciate your comments. Please keep coming.

MR. STABLES: I'm Gordon Stables with Ingersoll Rand Company. I also appreciate being invited here. And I would also like to offer our expertise, whether it's microturbine technology or physical security or cafeteria systems. Those are the businesses we have.

GEN. WILLIAMS: Let's see. Any visitors in the back? Okay. These are all our people. Let me just say once again to the individual panel members we really and truly appreciate your support and I hope that - I know you said this to me many times before but I hope you are taking away something from this as well and we can keep this moving along. Gina will be in contact with you on the next date

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unless you have it already?

MS. PINZINO: We do, General. It is in October but we just have to check with one of our panel members.

GEN. WILLIAMS: Okay. It's going to be in October and Gina will be in contact with you. Also, I know that from time to time we will raise a question, raise an issue between meetings and you have been most responsive in terms of giving us your views. When we have asked that Greg has a little follow-up with you on some of the operations and maintenance side he will deal with you individually on that coordinating through Gina.

We have spoken about Industry Day. This is the second time that this organization will sponsor this. We will be in the Ronald Reagan Building downtown. Gina has done a lot of preparation for this to make certain that it is very informational, and we think we have it scoped out right to provide the maximum amount of information.

I can share with you that we virtually have standing room only. We've got over 300 or so prospects that are coming in with many, many, many companies. We are encouraged by that. Hopefully, this will give us all the

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options and capability and also create opportunities for many of our private sector partners.

The whole idea here is to involve industry. You know, it has been one of our major outreaches since we arrived here is to recognize the fact that we can do a lot together, not very much without each other. And we have tried to create an atmosphere that is professional and friendly.

We understand what you have to deal with and hopefully you're sensitive to us as well. So far it appears to be working for us. The sharing at the table today that our participating pool of contractors and consultants and everyone has significantly improved, almost quadrupled over the last couple of years, and we would like to see that even get larger, much larger, because we have a lot of work.

And I will repeat this once again going forward. Our objective is to turn over seven to ten new facilities a year. And so to reach ten, meaning that we will have to prime the pump up front and really start between 10 and 14 over the next few years. There's a lot of work to do. We have over 150 new complexes to get done.

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Our long-range overseas building plan, which is the strategic document that guides the whole process, the Under made reference to that, is valued today at roughly over \$6 billion of identified work. That just covers six years. We still probably have another six years left just to get out of, quote, the hole, that is, to get every facility in somewhat of a safe posture.

And then, of course, we would have even after that period of time the whole issue of replacement and sustainment and the like. So there's plenty of work, a billion plus a year, is what it looks like it is going to be. Congress and everyone has been very supportive of the effort and we are doing our best to keep things in order.

Part of the reason we dig so deeply into what might appear to you to be sort of routine types of things but these are the issues that have gotten the government into being sort of misdirected. And I can say this with some degree of credibility because I have served for almost 30 years in a highly sophisticated government entity and I would have loved to have had an interactive process like this.

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You bring a lot of candor to the table. We have tried to facilitate it this way. Most of you know that I'm very open and direct and all of that. And this helps, too, with the dialogue because there is no point in coming in on a situation like this and wasting all our time without sort of opening up and saying what needs to be said.

I appreciate the diversity every now and then the diversity of opinion. It gives a lot for us to work with and we can go back and frame something that is very useful and helpful. So once again, thanks to all.

I want to thank Deborah once again, our court reporter, who takes good notes for us and allows us to meet all of the requirements for having an open meeting. She does it quite well.

I'd like to thank the staff assembled sort of on this half of the table starting with Bill McLeese and Jim Robertson and Joe Toussaint, next to me Suzanne, our chief of staff, Terry Wilmer who now has relinquished his responsibility for managing director of our real estate and property management. He is now the managing director for planning and development. Coming out of the experience of

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having watched all the real estate and associated issues he has taken on planning and development.

Chuck Floyd who was in that position is our senior representative for Congressional liaison and external matters. He left earlier today to go and attend to some of that activity. Jurg Hochuli, next to Terry, is our resource management managing director. That rounds out the team.

Sitting behind me are a whole host of backups, backups from the standpoint that they do most of the work. This is Greg Krisanda. He runs our Deputy for our Facilities Management apparatus. Deborah Glass is our Managing - our Divisional Director for Security Management on all the technical security matters. Debbie is responsible for that.

Vivian Woofter runs our Interior and Furnishings Business, and she is very good at that type of business. Then we have Vickie Hutchinson, who is the deputy for Terry, Steve Urman who is the deputy for Jim Robinson. We have Gina who needs no introduction and next to her is Michael Sprague who is responsible for all of the graphics, the presentation that you see. He's the PowerPoint person on

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our team. And of course, Ezel Silver is batting cleanup today and he's subbing for our new director of construction and commissioning, Bill Prior. Bill is new in from a very successful execution of our new embassy in Nairobi, Kenya.

And I see we have around me on the wall and sitting over, very active and looking distinguished is Gay Mount. And he decided to sit on the side with the visitors. I like to pick on Gay. And then, of course, in every organization you need a doorman and Jesse Montoya is keeping us all straight and he will tell you how to get out of this building safely.

Jesse spent 20 years or so in the law-enforcement business so he is not - he is for real. I'll tell you a little joke. It was back in my military days and down at Ft. Eustis, Virginia and a pilot came over and people know that I've flown helicopters, so they sent at that time our Blackhawk helicopter was just coming out and they sent this Blackhawk over to take me someplace and the gentleman got out who was in the left seat and we know that's the senior person. And distinguished gray hair and all that, whatever.

And our pilots come a little bit younger and so

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when he got out he said, General, don't worry. I can fly. So I just want you to know that Jesse is not just talking security because he happens to have that assignment. He's a real security guy. Okay, with that, I think we can call it a day and wish you safe travel and see you next time.

(Whereupon, the meeting concluded at 3:45 p.m.)

CERTIFICATE OF REPORTER

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I, Deborah Turner, CVR, do hereby certify that the foregoing proceedings were electronically recorded by me via audiotape and reduced to typewriting under my supervision; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome in the action.

DEBORAH TURNER, CVR

My commission expires: 02/01/2006

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